HYPERTROPHY BEGINNERS GUIDE

TR COACHING

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INTRODUCTION

The main issue we faced was how to still progress or at the very least maintain our hard earned gains from home with little or no equipment. This was uncharted territory for even the most seasoned fitness professionals.

What we can confidently say is that the whole fitness community has been amazing in how it has gone about this change. The quick pivot of coaches and clients to home workouts and virtual training has been very impressive, kudos to you if you've been a part of this.

We are now just over a month in and we decided to put together this Home Hypertrophy Guide. This guide is based off the combination of what we already know in terms of evidence based recommendations for hypertrophy and then how we have applied them successfully with our own clients training from home.

What we would like to stress is that there is no reason to put off starting. Although we have now been in this for a while, there is no guarantee that gyms and studios will be open soon. Simply waiting until gyms re open to resume could very potentially leave you with 8, 10, 12 weeks of no training. Whilst not ideal, there is still a lot to be gained from training at home.

WHO IS THIS FOR

Clearly if you have a fully kitted out home gym, this isn't for you. This guide is designed for those who have little to no equipment and therefore are limited in their options for applying load to stimulate muscle growth, or at the least maintain what you have. Because that's why we go to gym for right! Gyms are full of equipment that allow us to more practically stimulate our muscles to grow.

So how can we grow from home with minimal equipment. You need the following:

1. An understanding of the basic principles of muscle growth
2. Techniques and methods we can use to apply these principles at home.

Whilst it can be annoying and disheartening not having a facility to train at, the first step is to realise life is bigger than just a gym. This is not a forever thing, it's temporary to allow as many of us to be as safe as possible. For now, let's make do with what we have and understand and be grateful for the fact you are safe and that gyms will be open soon enough. With that being said, what you want to avoid (if possible), is completely stopping exercise because you think home training can't be effective. Whilst it's not ideal, it still works and there is a lot to be gained for those that want to. We know from research and specifically Dr Mike Isratel's work on volume landmarks that we can likely at the very least retain our muscle mass with as little as 6 hard sets per muscle group per week. Think about that for second. A bulgarian split squat is relatively hard for most with just bodyweight. If you can manage 6 sets per week taken to a close proximity to failure you could very much maintain your quad mass (note this will be per individual, some people have higher and some lower volume requirements). Further, if we can manage somewhere

between 10-20 working sets per muscle group per week, it's very likely we can actually build some new muscle.

Below we are going to outline how to create effective home workouts. Essentially, if you take these workouts and do enough of them, then you will set yourself up for the best chance of continuing to gain and at the very least you can hold onto that hard earned muscle.

TRAINING & HYPERTROPHY

How Do We Build Muscle

We must apply an adequate stimulus by applying the required magnitudes and durations of tension followed by sufficient recovery to allow adaptations to occur. We can meet these stimulus demands by:

- High absolute loads (>65%) for lower reps
- Lower absolute loads for higher reps close to failure or failure (0-3 RIR)

In the gym, this is quite straight forward as we have plenty of options in terms of loading. We have the option to use both heavy loads and lighter loads & the intensity we train with will drive the training effect. In gyms we also have plenty of options in terms of progression with endless amount of weight available to us as we adapt and require a new stimulus.

At home with minimal equipment, it's likely that heavy loads are unavailable for most exercises. Although the load (magnitude) will be small, if we take the exercise to a close proximity to failure (long duration) we can potentially achieve the required stimulus demands for muscle growth. If you then take this stimulus and apply it over an appropriate amount of sets per muscle group per week with some progressive overload across the weeks then you

have a pretty good hypertrophy program.

The Physiology

Hypertrophy is stimulated by the near maximal recruitment of muscle fibres. Above we have talked about the magnitude and duration of tension and the specific examples. Now we will look at this at the fibre level to give you a greater understanding of how it works. The size principle states that fibres are recruited in order of smallest to largest to meet increasing force demands.

When we apply a high absolute load to the muscle, we recruit large muscle fibres very quickly, these have the most potential for growth but also fatigue the quickest hence why the duration required for the hypertrophic stimulus is low (i.e low reps).

When we apply a lower absolute load, due to low force demands we begin recruiting the slow twitch fibres first. It's not until these fibres begin to fatigue and force demands increase that our fast twitch fibres begin to be recruited to help meet required demands. So the set will take longer and will need to be taken close to failure for a full spectrum of fibre recruitment.

Now assuming most of us are training with low loads and therefore having to go to high relative intensities we need to consider 'HOW' to get to a close proximity to failure. We use a subjective measure of Reps In Reserve (RIR) or Rating Of Perceived (RPE) to determine this. RIR is a scale of 0-10 and rates the intensity of a working set based off how many reps you stopped short of concentric failure. RIR 0 means failure, RIR 1 means you stopped 1 rep short of failure, RIR 2 means you stopped 2 reps short of failure and so on. RPE is simply the inverse i.e RPE 9 means you stopped 1 rep short of failure. It doesn't matter which one you use, just pick one and stick with it.

Depending on your level of advancement and equipment available it will either be relatively straight forward or you'll have to incorporate some different techniques into your training to help achieve this. Let's take these 2 examples of people trying to create leg workouts.

Subject 1

- Has 6 months of training experience
- Has access to TheraBand and adjustable dumbbell set
- Likely can do most exercises as normal and can achieve a good stimulus through taking straight sets close to failure.

Subject 2

- Has had 5 years of good structured training and very proficient at all exercises.
- Can squat 150kg
- Has access to 10kg and dumbbells plus a TheraBand
- Unlike above, single exercises taken to a close proximity to failure is probably a little impracticable. How many reps of goblet squats would this person have to do to achieve failure, probably over 100. They will likely need to add some other training methods (tempo, pause, pre exhaust) to add intensity to their exercise to make them more effective at creating a stimulus.

For some, taking a single exercise to failure through just straight reps will prove challenging. In subject 2 for example, if they tried to take a set of goblet squats with the 10kg DB to failure it's likely to turn into a conditioning workout rather than stimulating the legs for hypertrophy.

We will look into these training methods that will help add intensity, further into this guide.

REASSESS GOALS & EXPECTATIONS

As you're finding out in this guide there is no reason why you still can't build muscle during this time. In saying that, given the potential limited availability of equipment/load, this may also be a good time to incorporate some other goals that you may have been putting on the back burner whilst in the gym. Here is a list of other potential training goals you may consider along with hypertrophy.

- Improve a movement pattern
- Address injuries and niggles
- Plan and active rest into your schedule (2-4 weeks)
- You could also improve your cardiovascular fitness (for example this could benefit your in session recovery between sets)

There is one training goal that may be out of the question though and that's improving strength.

There are generally 2 main goals for those who resistance train, hypertrophy and strength. There's a reason this E Book is directed at hypertrophy as training for absolute strength may not be possible during this time (remember, this guide is not for those with a full kitted out home gym). To gain strength you WILL require higher absolute loads in your training and this simply won't be possible for most.

In saying this, there is a lot to be gained from this period of time that will enhance your absolute strength when you can get back in the gym.

- Shifting our focus to hypertrophy as we know increased cross sectional area of the muscle allows for increased strength potential. More muscle has the potential to provide more force.

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- The lighter loads will allow for you to iron out any technique flaws which again will translate into increased potential for strength.
- Moving away from the heavy lifting for a number of weeks will allow for the recovery of tissue such as tendons and ligaments, also joints and systems such as chemical messengers and hormones. Long periods of training heavy with no recovery/ fatigue management will take a toll and potentially lead to long term injuries. So it is a good chance to manage this.·

KEYS TO EFFECTIVE HOME TRAINING

Do What You Can To Keep It The Same

If you take anything away from the this document it would be:

Keep the fundamentals the same as a normal gym program.

The way we grow muscle doesn't change regardless of being in a gym or not. We still need to provide a sufficient stimulus.

Clearly the way we do this will be dictated by the availability of equipment. If you have a fully kitted out home gym then things carry on as normal. If you don't have access to a lot of equipment then obviously things will have to change a little.

For example, let's say you only have access to a pair of light adjustable dumbbells. Compare the below sessions.

Gym Session (Pre-Isolation)			
Exercise	**Sets**	**Reps**	**RIR**
BB Back Squat	4	8	2
RDL	3	8	2
Walking Lunges	3	10ea	1
Hamstring Curl	3	12	1

Home Session Option 1			
Exercise	**Sets**	**Reps**	**RIR**
Tempo Heel Elevated Goblet Squat	4	AMRAP	0-1
Tempo RDL's	3	AMRAP	0-1
Paused Walking Lunges	3	AMRAP	0-1
Hamstring Plate Slides	3	AMRAP	0-1

Home Session Option 2			
Exercise	**Sets**	**Reps**	**RIR**
Burpee	3	10	0-1
DB Boxing	3	40 secs	0-1
Squat to Press	3	15	0-1
Jumping Lunges	3	12ea	0-1

Session 1 is the regular workout you'd do pre isolation when you had full access to a gym. I think we can all agree it looks like a pretty standard, hypertrophy focused workout for legs. Now if we look at Home Session Option 1 we can see the following:

- It's used exercises that are the same/very similar to the gym session
- To make up for lack of load, other intensity techniques (tempo's, pauses and biomechanics alterations) have been added.
- Also to make up for lack of load, RIR and the actual rep range have been adjusted to produce a high hypertrophic stimulus.

This is a pretty good home session! It uses the same movement patterns and has been structured in a way that will still provide a good hypertrophic response. On a quick note, keeping the reps below 30 if possible is advised, anything above and it may mean your aerobic system interferes prior to your muscle.

Now let's look at Home Session Option 2.

- Very few/if any similarities to the original gym session
- Introduction of new training modalities i.e explosive jumping
- Appears more conditioning based rather than resistance training

Unless your goals have completely changed then this doesn't represent a good way to go about your training during isolation. We are going to assume that resistance training is still your main focus throughout this guide and therefore the aim should be to produce a program that is still specific to your goals and can be progressively overloaded. If you can tick off those two factors then you will have a really effective training period.

It's easy to fall into the trap of what we think home workouts 'should look like' but if your goal is hypertrophy the aim should be to as best you can replicate your regular gym workouts as much as possible.

How To Measure Workout Effectiveness

This is actually one that's been quite common for a long time. If the aim is for hypertrophy then your session quality is measured by how stimulating it is via appropriate loading and volume. Aiming to simply be as exhausted as possible has no correlation to hypertrophy and if anything, allowing your conditioning to be the limiting factor NOT muscular fatigue will hinder your progress.

Don't Do It All At Once

Just like in the gym, with a new stimulus, the body needs time to adapt. Rushing this process and doing excessive work outside what the body is accustomed to can lead to injury. Have you ever gone on holiday, not trained and then within 2 weeks of training back at home you get injured?

HYPERTROPHY FROM HOME GUIDE

Home workouts when not well thought out have the potential to lead to injury due to:

1. Although the aim is to keep workouts as similar as possible, clearly there will be some alterations to programs. With this comes a slightly new stimulus to which the body is not accustomed to and when introduced to aggressively can become problematic
2. With the extra time on our hands people will likely work out more to keep busy. Whilst this isn't a problem, there needs to a gradual build up to this increased workload rather than a quick jump. This is known as our acute: chronic workload ratio and basically states that if a single workout is significantly higher in workload than the average of your workload across your previous workouts over a training block then your risk of injury is higher.

To put these in an example, which will highly likely occur during to some during this time.

Let's look at some likely differences in gym vs home training for an individual. This person is a fit, strong and healthy. They have been training for 3 years and are competent and strong with all your standard gym exercises. Currently no injuries or niggles and have only limited access to light equipment at home.

<u>Gym Training</u>

- 4 day upper/lower split
- 10-15 working sets per muscle group
- Well-structured program and has built good movement patterns and strength in these movement patterns over a long period of time

Home Training

- 6 days per week resistance training with large increases in volume due to less weight available.
- Program is anteriorly dominated (chest, shoulder and quads) as struggling to find exercises that train posterior muscles (back, glutes and hamstrings)
- Introduction of new exercises outside the norm i.e jump squats and burpees Introduced 30 minute runs 3 times per week.

This large jump in workout load will unbalance the acute:chronic workload ratio and coupled with the aggressive introduction of new exercises increases the chance of injury.

Don't Try & Reinvent The Wheel

In any good gym program we want to be doing some form of squat, hinge, horizontal and vertical press and horizontal and vertical pull. Whilst you can get creative with how you apply load to exercises, the actual exercise itself should hold relatively the same movement pattern.

What does this is all mean? Let’s look at an example.

A squat, should remain or at least closely resemble a squat. We’ve seen plenty of people try to get funky with this exercise and turning it into something that ineffective, dangerous or both. Let’s be honest it’s not the squat movement that’s the problem and if there was a better way of doing it, we’d already be using it in the gym. What we really need to think about is how to make it harder with different intensity techniques if we do not have access to heavy weights. These 'intensity' techniques increase the stress on the muscle for any given repetition as opposed to performing the exercise normally. Here are some ways to add load:

- Dumbbells, barbells and kettlebells
- TheraBand's
- Full shopping bags
- Full back pack
- Milk cartons
- Bricks

The list really could go on forever. You just need to find anything you can hold that doesn't have a big impact on the movement pattern, eg unstable surface.

Use Upper, Lower & Full Body Splits

This is purely an anecdotal observation but thus far we've found that the training days that contain larger amounts of muscles per day tend to work best. Sure you can still have chest Monday but when you might only be able to perform push ups and some light dumbbell presses it's likely that there is a more effective use of that time and therefore your training week. Given that you're likely limited by exercise and limited by load available, you can probably get away with increasing the frequency of training per muscle group. We'd recommend training days consist of full body, upper body or lower body and perform them multiple times per week.

INTENSITY TECHNIQUES: HOW TO MAKE EXERCISES HARDER

So, what do we mean by 'training methods to add intensity' which we have talked about throughout this guide. The methods below will help add intensity to your sessions when the basic load and exercises you have just won't cut it.

Pre Fatigue Super Sets & Giant Sets

This involves grouping 2-4 exercises of the same muscle group and doing them all consecutively with no rest. After you finish the last exercise, then you rest. This very well suited to someone who has very little weight available for exercises they'd usually use quite heavy loads. For example, our subject above who could squat 150kg. If they were to pre fatigue the quads with some walking lunges, then a set of goblet squats straight after becomes a lot harder.

To pre fatigue, begin with the hardest exercise first, take it to a low RIR and then move onto the next exercise straight after. Each preceding exercise should be an easier exercise for the muscle group on paper.

Example 1 - Quads

1a) Body weight deficit split squat – 3 x AMRAP

1b) Body s weight sissy squats – 3 x AMRAP

1c) Body weight squats – 3 x AMRAP

Example 2 - Chest

1a) DeclinepPush ups – 3 x AMRAP

1b) Theraband chest press – 3 AMRAP

1c) Floor press – 3 AMRAP

Tempo's

Tempos essentially extend the amount of time we are performing the moving. 10 reps at normal cadence takes significantly less time that 10 reps with a 5 second eccentric. There are a few reasons as to how this technique can benefit you with home training.

- We can increase the duration the muscle is under load therefore we have an increased stimulus per rep.
- We can iron out technique flaws. By slowing down the movement we give ourselves the opportunity to really focus on parts/cues of the movement we may not perform well.

To use tempo's you generally slow down the eccentric phase of the movement i.e the lowering. Following that the concentric is performed as normal and with intent. In terms of how slow, 2-5 seconds tend to be appropriate guidelines.

Pauses

Very similar to tempos, pauses again increase the time the muscle is under load. The benefits of tempo reps are:

- We can increase the duration the muscle is under load for longer therefore we have an increased stimulus per rep. The pause is generally in the position that the rep is the hardest. Meaning we need to produce more force to overcome force demands.
- We can iron out technique flaws. By slowing down the movement we give ourselves the opportunity to really focus on parts/cues of the movement we may not perform well.

To use pauses you need to pause at the end eccentric portion of the movement for 2-3 seconds. In order to do this effectively you need to put your intent into holding a strong position and tension through the appropriate muscle as you pause.

1 & 1/2 Reps

Another strategy to increase time the muscle in under load adding 1 & ½ reps. Basically what's happening is that your spending extra time in the hardest

part of the movement. For example, the hardest part of a squat is from the very bottom to about half way up. Once you break that sticking point, the top of the squat becomes easy. Think about it, where could you do less reps? If you squatted to half depth or squatted full depth and only came half way back up? Option 2 of course, as that bottom half of the squat is harder than the top.

To use 1 and ½ reps, go to the end eccentric phase of an exercise, return half way then go back to the end eccentric phase. After that complete the full concentric part of the movement. That's 1 rep.

EQUIPMENT EXAMPLES

Again, this Is not aimed at people that have full home gym fit outs.
Examples of equipment include:

- Body weight
- Small/adjustable dumbbells
- Barbells & platesBands
- Step or stairs
- Bench or chair
- Bottle full or milk cartons full of water
- Full back pack
- Skateboard
- Anything that you can grab and has load.

HOME HYPERTROPHY SUMMARY

- Rule number 1! Keep it as similar to your gym program as possible
- If the goal is progression then aim for 10-20 workings sets per week per muscle group, taken to a sufficient proximity to failure
- If simply looking to maintain current muscle mass then 6-8 working sets will likely suffice
- If you only have light load available then exercises must be taken close to failure or failure (high relative intensity) to stimulate hypertrophy. Failing this you are just generating a lot of fatigue and but not much stimulus.
- If possible keep reps between 5-30 from a practical standpoint
- Don't try and invent new exercises. Keep the basic movement patterns and get creative with how you load them. If you have to repeat a select group of exercises over and over then that's what you do.
- Use intensity techniques to make easy exercises harder
- Measure session effectiveness on the ability to stimulate muscles
- Stay consistent

THE WRAP UP

If you take anything from this report, it's that all is not lost. Although the situation is not ideal, this guide hopefully outlined that progress is definitely possible and at the very least you can maintain what you already have.

When designing workouts, we must take into account what we already know works for muscle hypertrophy and then apply it to what we have available at home. In the gym or at home, we still need the stimulus and proper recovery to promote muscle growth. The easiest way to do this is to keep your program as similar as possible to the one you already do in the gym. Following that, we just need to ensure we are producing a high amount of

stimulus to the muscle and to do this we may need to use techniques we wouldn't usually use in the gym to accommodate for the lack of load and equipment available to us. Find ways to produce this Intensity and do enough of it per muscle group across the week and you have a pretty solid training program.

We know gyms and studio will be back but in terms of when, that's still up in the air. As we stated earlier, you could be left waiting for weeks and months if you decide not to adapt. These are unprecedented times where we have all had pivot from the way we normally do things. Whilst some things maybe out of reach, health and fitness doesn't have to be one of them.