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Hypertrophy Made SIMPLE

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With Max Weisenthal

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1.

HOW DO YOU CHOOSE EXERCISES?

When you're training with weights at the gym, how can you know for sure that you're really stimulating your muscles to grow?

Acutely, signs of a robust, muscle-growing stimulus usually include some perceived tension in the target muscle. This experience might feel as though "something in there" is either under great strain or potentially even ripping apart ever so slowly, especially when you train heavier for lower reps.

A growth stimulus can also present itself as a burning sensation in the target muscle, especially if you're training for higher reps and going close to muscular failure. After each set and especially after a few sets, growth-stimulated muscles will often also feel *super* pumped and seemingly full of fluid as well as very fatigued and difficult to move in normal ways. In the hours and days after effective training, the target muscle might also feel tight and even a bit sore.

In the longer term, muscle growth is best proxied by your repetition strength. So, if you can use the same weight for more and more reps over time or use an increasingly heavier weight for similar reps over time, this is a very good indication that you're probably gaining muscle.

Now that you know which experiences correlate with probable muscle growth, you can choose the exercises you'd like to use for any given target muscle you're interested in growing by looking for those very same signs of growth.

The exercises that check the boxes of these growth correlates, or "proxies" as we might refer to them later, are probably your best bets for growth.

If growth is the goal, you should choose exercises that:

1. Cause tension and/or a burning sensation in the target muscles.
2. Give you the best pumps.
3. Zap energy from your target muscles the best.
4. Stress your joints the least.
5. Do all of the aforementioned things without needless exertion or systemic fatigue.

That is, if you train the muscle hard, but you're not as all-around tired as you would be from other similar exercise choices, you're probably on the right track to choosing the best exercises possible for hypertrophy.

In essence, you're looking for the exercises that give you the *most* muscle-growth stimulus yet cost you and your body the *least* amount of fatigue possible. That is truly the ideal combination for hypertrophy as we consider exercise selection.

STIMULUS TO FATIGUE RATIO

However, this doesn't mean that *zero* fatigue at all is best, it just means that if you're going to choose a significantly fatiguing exercise, it had better be delivering a *massive* stimulus that makes the resulting fatigue worth it.

Unfortunately, your body will be very good at adapting to exercises and rendering previously very effective exercises a bit stale over time. Stale exercises will produce less stimulus, cause more fatigue, and will actually feel like they just aren't doing as much good as they were before.

While beginners can go months without experiencing any exercise staleness, eventually everyone will start experiencing the negative effects of having kept an exercise in the program just a bit too long.

So, how do you know if an exercise is stale enough to remove and replace with another one for that target muscle group? We've got you covered.

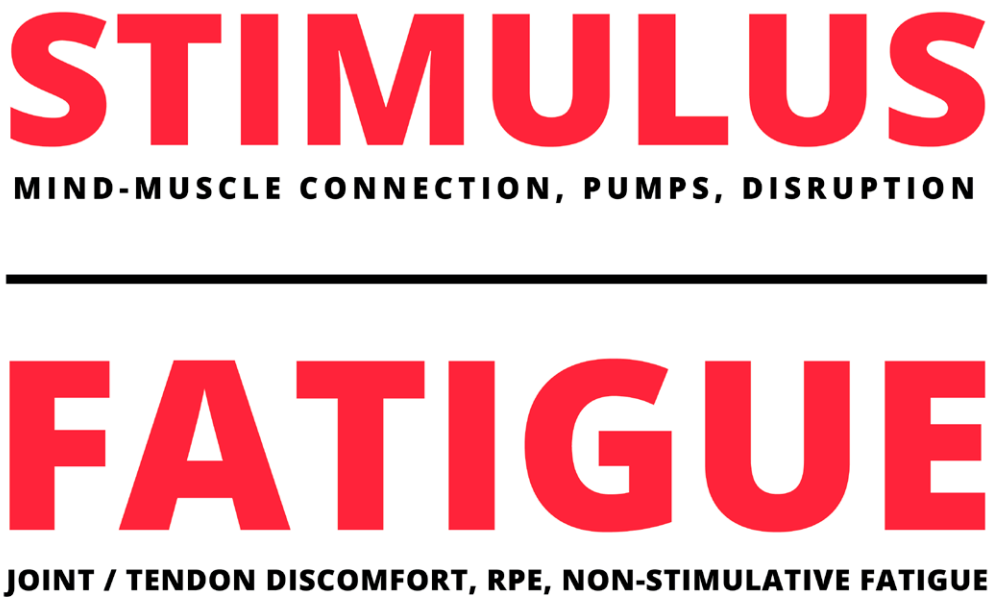
HOW TO KNOW WHEN TO KEEP AND REMOVE EXERCISES

***Keep* doing an exercise that:**

1. Gives you great tension, burn, pumps, and disruption (weird feelings, tightness, soreness in the target muscle).
2. Is easy on your joints and is worth the systemic fatigue.
3. Is steadily climbing in rep strength over the months.

***Replace* an exercise that:**

1. No longer gives you very good tension, burn, pumps, or disruption.
2. Is getting tough on your joints or zaps your strength for the rest of your program.
3. Has plateaued in rep strength over the last few weeks of training.



The fact that not all exercises will hit these conditions for change at the same time means you'll rotate some exercises once a month while keeping others in for years on end. Think of your training as a come-and-go social event where some of the more prominent figures may stay for most of the event while others enter the room and exit the room as they see fit across the evening. In a very similar way, your training program over months and years should mimic this natural flow based on the feedback your body gives you.

Once you've developed a fundamental understanding of which exercises you should be utilizing for hypertrophy, the question then becomes: How can you be sure that you're executing your chosen exercises properly?

We'll answer that question in the next section.

2.

WHAT IS PROPER LIFTING TECHNIQUE?

In theory, proper lifting technique for optimal growth muscle has a few core features.

The technique needs to stimulate muscle growth best and cause the least fatigue possible, which we already discussed in the last section.

In addition, the chosen exercise must be executed in such a way that keeps non-target muscles from being limiting factors. For example, if you're squatting to try to make your legs bigger but your lower back is taking most of the beating, you might have to alter your technique.

Lastly, good technique needs to be replicable from rep to rep, set to set, and session to session so that you can track progress, plan weight/rep increases, be mindful of fatigue, and stay safe from injury.

In order to check these boxes, most exercises you do will abide by a core group of about six technique fundamentals.

In a sense, no matter which exercises you do, you should nearly always seek to:

1. **Use a full and standardized range of motion (ROM).**

    a. For example, going *all the way down* to your calves when you squat or bringing the bar *all the way down* to your chest when you bench press.

2. **Use controlled eccentrics.**

    b. Never let the weight simply fall down. You should seek to slow the descent of every rep by actively contracting the target muscles.

3. **Avoid cheating.**

    c. Any heaving or swinging to try to get more reps that uses muscles other than the target muscle to produce force is suboptimal for obtaining a muscle-growth stimulus.

4. **Ensure that the limiting factor is the target muscle itself.**

    d. When you're almost incapable of doing another rep in the lateral raise, it should be because your shoulders are giving out, not your grip, for example.

5. **Take care of your joints.**

    e. The best technique is when your joints should feel best given the four points above. For example, if two techniques let you hit the muscles equally hard, but one technique is easier on the joints involved, that choice is probably the better one.

6. **Avoid going too light or too heavy.**

    f. Sometimes your best technique plans break down if the weight is on the heavier end or on the lighter end, so avoid repetition ranges in any exercise in which the excessively low or high reps seem to cause technique breakdowns.

And that's about as complicated as good technique has to be.

At the end of the day, if you're getting a great stimulus and very little fatigue, you're probably in a good place in terms of mixing your exercise selection with proper technique.

Now that you know how to choose exercises and how to perform them correctly, you're almost ready to lift hard and heavy.

But first, in order to keep the injury risk as low as possible and perform as well as possible, you'll have to warm up.

3.

HOW SHOULD YOU WARM UP?

First of all, why can't you just jump right into hard training? Why do you need to warm up at all?

Warming up has a few very major benefits that make it near-mandatory for serious muscle-growth training.

One of those benefits is that warming up makes the heavy lifting done after it less likely to cause injury. It makes your technique more efficient and targeted better to the muscle you want to grow. It also fires up your nervous system and allows you to push the target muscle to its limit, which usually occurs when the sets get *very* tough.

So, how do you go about warming up properly?

We have five simple steps to offer you.

5 STEPS FOR WARMING UP PROPERLY

STEP 1: You can choose to do easy cardio for 5-10 minutes before warming up specifically for your first weight training exercise, but this is optional.

STEP 2: Begin with a 20RM+ weight for the first exercise of your session and do it for around 10 reps.

Yes, you read that correctly! Choose a weight you can do *easily* for 20 reps or more, and just do 10 high-quality reps with great technique as you prepare for your working sets.

STEP 3: Do at least set with a weight halfway between your 20RM+ and your planned working weight for a set of about 4-8 reps. But, if the eventual weight you're going to lift for working sets is *very* heavy, you might have to do more warm up sets.

For example, if your planned working weight is as follows, then you'll need to do the following number of intermediate sets (sets of 4-8 reps with a few minutes in between each):

- 0-50 pounds: 1 intermediate set
- 50-200 pounds: 2 intermediate sets
- 200-400 pounds : 3 intermediate sets
- And you would continue this trend for even greater loads.

STEP 4: Do your working weight (or 10% higher than your working weight) for 2-3 reps.

This high-load warmup set is termed a "potentiation" set, and it fires up your nervous system so that your body can *really* push itself hard on the first working set after.

STEP 5: Once you're done with that potentiation set, get your working weight ready and do as many sets as you need to. When you switch to your next exercise that day, and for each new exercise after, just do the following:

- 5 reps with a weight halfway between your 20RM+ and the planned working weight
- The working weight itself for 2-3 reps

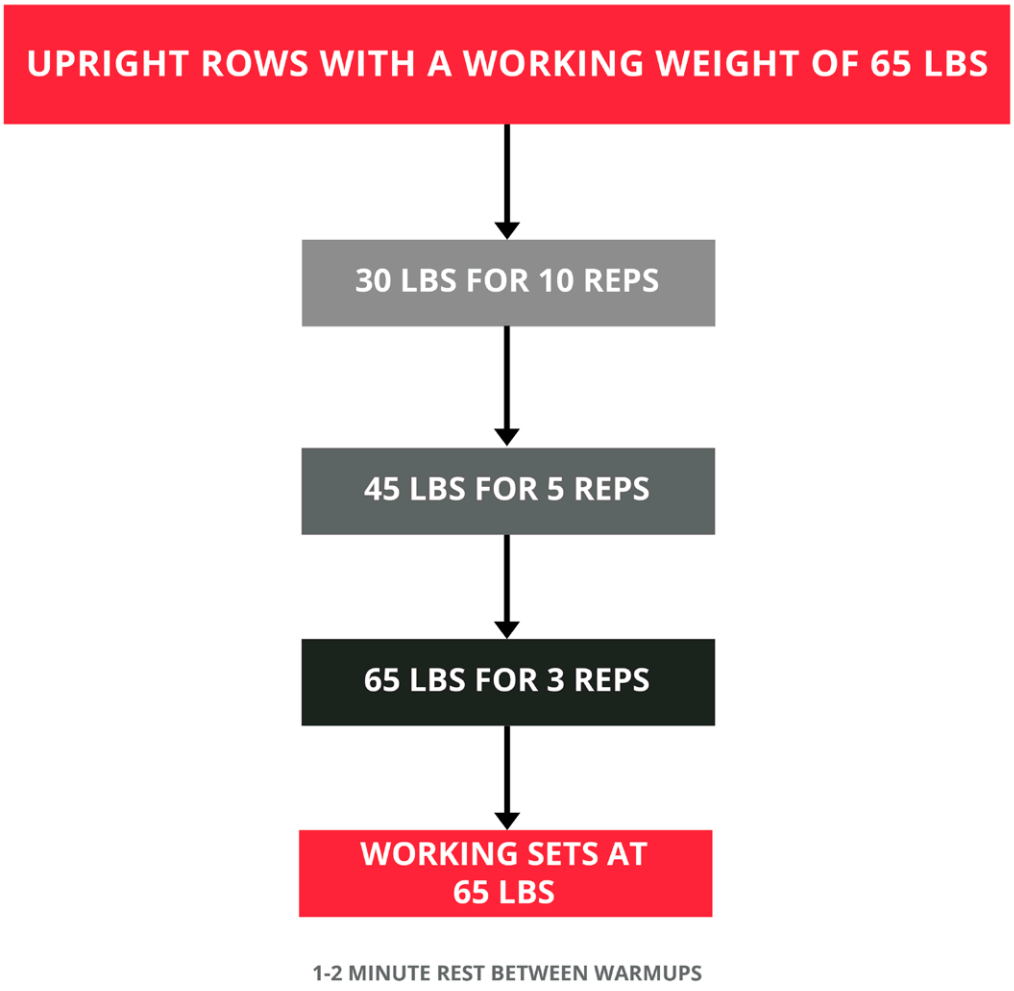
At this point, you should be ready!

If it's an exercise for a muscle group you haven't trained yet that day, going through the entire warmup up process for that exercise starting at step two is likely a good idea.

Now, let's take a quick look at some warmup examples in which you'll rest for a minute or two between each warm up set:

Example 1: Upright Rows with a working weight of 65 pounds

- Use the 30-pound straight, short bar for 10 reps.
- Do 45 pounds for 5 reps.
- Do 65 pounds for 3 reps.
- Then, begin working sets at 65 pounds.



Example 2: Leg Presses with a working weight of 455 pounds

- Put 1 45-pound plate on each side of the sled and do 10 reps.
- Do 2 plates for 8 reps.
- Do 3 plates for 6 reps.
- Do 4 plates for 4 reps.
- Do 5 plates (495 pounds) for 3 reps.
- Then, begin working sets at 4 plates and a 25 per side (455 pounds).

Hopefully, these examples provide you all of the insight you need to execute your warmup sets properly.

After you're warmed up, the next logical training variable of consideration is how heavy you should be lifting for your working sets.

Remember, your working sets are the sets that provide *most* of the muscle-growth stimulus during your sessions, which means it's very important to make sure you've chosen an appropriate load.

How do you do that? We'll discuss that thoroughly in section four.

4.

HOW HEAVY SHOULD YOU LIFT?

It's mostly common knowledge that lifting heavy weights gets you bigger muscles.

And, as it turns out that's true, but it begs the following question: "*How* heavy?"

Luckily, science has some very good answers! It turns out that, based on decades of scientific investigation, lifting a weight that's much less than about 30% of your 1RM is not going to reliably stimulate as much muscle growth as heavier weights would.

You *can* still grow muscle lifting light like this, but you'd have to do so many reps and so many sets to get even close to the most muscle growth you can stimulate with heavier weights that the sheer boredom, pain, and fatigue would limit you before you were able to grow as much as you could.

At this point, you might be thinking, "Okay, got it! Heavier is better. Let's just do one rep maxes to get huge!" But that's not the case either.

What's the problem with going *that* heavy?

Much of the same scientific research has found that consistently lifting much over 85% of your 1RM range *can* grow plenty of muscle, but it comes with some limitations and side effects.

Doing so few reps per set means you have to do more sets than you would have if you had simply gone a bit lighter.

Going this heavy also causes a *lot* of wear and tear on your joints and connective tissues, which sums up a lot of fatigue and can stall progress just weeks into your plan.

Lastly, going this heavy needlessly elevates the risks of acute injury without actually growing any more muscle than lighter, safer training would. In summary, we can do better than lifting ultra heavy for maximum muscle growth.

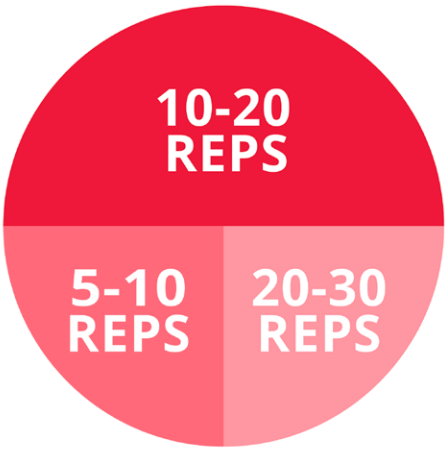
Knowing these facts, we can develop some general loading recommendations for muscle growth.

5 LOADING RECOMMENDATIONS FOR MUSCLE GROWTH

1. Anything in the 30-85% range of your 1RM will cause *great* muscle gains.
2. This means most of your training should consist of hard sets of 5-30 reps within a few reps of failure.
3. Some exercises will be best suited toward lower rep ranges (5-15), such as antigravity compounds like rows, squats, deadlifts. This is because these exercises start to be limited in performance by your ability to remain stable, not because the target muscle itself is getting tired.
4. Some exercises will be best suited toward higher rep ranges (15-30), such as dumbbell, machine, and isolation movements because lighter loads in these movements can obviate stability problems, be safer, and be lifted for enough time per set to generate the highest stimuli of muscle growth.
5. Using a variety of ranges is probably best.

   A good start is to do about 50% of your working sets in the 10-20 rep range, with another 25% in the 5-10 rep range and the last 25% in the 20-30 rep range.

LOADING RECOMMENDATIONS FOR MUSCLE GROWTH



USE A VARIETY OF RANGES FOR EXERCISE REPETITIONS FOR OPTIMAL MUSCLE GROWTH

The big insight with loading is that, as long as your working sets fall generally between 5 and 30 reps each, the differences in growth from which end they are on and in what conditions is much smaller than if you fall outside of that range.

In other words, if you are experiencing great tension and burn, great pumps, plenty of target muscle fatigue and soreness while your joints feel great and you don't feel crushed, whatever rep ranges you're using are probably pretty close to optimal.

This ratio between stimulus proxies and fatigue proxies is called the **stimulus to fatigue ratio (SFR)**, and you'll see it referenced in this guide several more times in various contexts.

5.

HOW LONG SHOULD YOU REST BETWEEN SETS?

Now you know how heavy to go for each working set, but how *many* reps you can get in each set is hugely based on how long you rest between each set and the next one.

So, is there a correct amount of time to rest in between sets? Yes!

Here are our recommendations.

After a given working set, you should rest long enough until you can *at least* check the following boxes for yourself:

1. Your target muscle can do at least 5 reps on the next set.
2. Your cardio will not limit you on the next set.
3. Your nervous system/psychology will not limit you on the next set.
4. No synergists will limit you on the next set.

Here's an example with calf raises on a machine designed to illustrate how quickly the rest-time boxes can be checked in some scenarios:

Example 1: Machine Calf Raise

1. Your target muscle can do at least 5 reps on the next set.
   - This requires 10 seconds of rest to accomplish.

2. Your cardio will not limit you on the next set.
   - Not applicable! Machine calf raises don't really tax your cardio-vascular system.

3. Your nervous system/psychology will not limit you on the next set.
    - This requires five seconds to accomplish because you're feeling strong and ready to go just shortly after the set is over.

4. No synergists will limit you on the next set.
    - Not applicable! Since there really aren't any synergists in machine calf raises, it's all calves, and when they're rested for *literally just 10 seconds*, you can go again if you'd like.

Example 2: Barbell Squats with 500 pounds for sets of 10 reps:

1. Your target muscle can do at least 5 reps on the next set.
    - It might take 60 seconds until your quads are recovered enough for at least another five reps to be possible.

2. Your cardio will not limit you on the next set.
    - It might take three minutes until you're not gasping for air anymore, and, if you did another set right at the three-minute mark, your quads would limit more reps from being done, not your lungs.

3. Your nervous system/psychology will not limit you on the next set.
    - It might take four minutes until your feelings of depletion and defeat are replaced with feelings of strength and a desire for another challenge.

4. No synergists will limit you on the next set.
    - This could take five minutes because that's how long it will take your lower back to stop hurting from all of the metabolic byproducts of your last squat set. Thus, because this is the limiting factor, you'll have to rest at least five minutes after your set of squats for the next set to be maximally productive.

Does this mean you *must* go as soon as you've checked all four boxes? No, absolutely not.

But it means you *can* go again if you'd like. If, however, you'd like to rest a bit more, that's fine too!

The big downside here comes from not resting enough rather than from resting a bit too much. That being said, if you don't want to spend too much extra time in the gym so that you can spend more time enjoying hobbies, work, or rest and recovery outside of the gym, it's probably wise not to stray too far away from the smallest tenable rest times.

6.

HOW MANY SETS SHOULD YOU DO?

The general answer to this question is "enough sets to trigger robust muscle growth," but since that's much more of a tautology than a good answer, we've got a few science-backed recommendations as well.

Enough stimulus to ensure you're likely growing the most muscle tends to occur when the sets you did for a specific muscle give it a good or even great pump, tire it out plenty, and lead to a day or two of post-workout tightness, weakness, and maybe even slightly painful soreness to the touch.

The number of sets it usually takes to accomplish this task is as follows:

- **Beginner:** Can often be 1-5 sets per session (people training from 0 to 3 years)
- **Intermediate:** Can often be 2-10 sets per session (people training from 3 to 7 years)
- **Advanced:** Can often be 3-12 sets per session (people training from 7 to 10+ years)

Those are big ranges, so if you're getting good pumps and other good proxies for stimulus, you can just stay with the number of sets you're currently doing.

If you're *not* getting much of a stimulus, inch up the number of sets week by week (by only one set per muscle group per session at a time) until you're getting great stimuli. If you inch up too much, you might experience the downsides of doing too many sets, which present themselves as-follows:

- When you cannot recover strength to at least baseline for your next session
    - If you did 100 pounds in an exercise for sets of 10 last week, but this week you're so tired from all the sets that you can only do sets of eight with that weight, you're probably doing too many sets and need to reduce them ASAP.
- When you have overlapping soreness into your next session
    - If you trained quads on Monday and they are still sore to the touch on Thursday when it's time to train them again, it's probably wise to reduce next Monday's number of quad sets so that next Thursday you can be fresh for the workout.

One of the best and simplest approaches to doing the proper number of sets per muscle per session looks something like this:

First, start at the lowest number of sets per session that gets you a decent pump and muscle disruption. This might leave you saying something like, "Okay, I feel that!"

Second, add one set per week *if* and *as* you get used to the work. For example, your pumps and disruption don't improve or decline a bit and your rep strength is still above baseline.

Third, if you get to doing "too much," it's time to give the body a break and do fewer sets for a while.

Now you're all squared away for determining how many sets to do per muscle group, but how many sets should you be doing in *total* for *all* muscle groups trained in a given session at the gym?

A couple of hints at what's too many sets come to mind.

If you accumulate enough systemic fatigue during the workout, which means being tired in the core of your being versus being tired in a specific muscle, you won't be able to muster the effort to push your *target muscle* close to failure. This means doing any more sets would simply be too many sets for that workout. In other words, if you're stopping a set because you're "just tired" versus your target muscle being close to its *local* failure point, doing more sets is probably a bad idea.

The point at which most people reach this systemic fatigue speedbump lies somewhere between 15 and 30 working sets for the session/workout without counting warm up sets.

If you're very strong and training huge swaths of muscle like legs and back, 15 total working sets might be around the point when trying to do any more sets is a poor strategy.

If you're smaller and, specifically, if you're training mostly smaller muscles in that workout, such as biceps, side delts, calves, and/or forearms, you might be able to crank up to 30 sets per session and still be doing productive work in the latter sets. It's definitely possible to still be getting good benefits from more than 30 sets per session, but it's not likely. If you have to do that many or more sets per session regularly, the best approach is probably to increase the number of weekly workout sessions you're planning so that you can do fewer sets in each and make sure all the sets are of a high quality.

Speaking of quality, one of the big determining factors of set quality is whether or not the muscle itself came fairly close to failure before you stopped the set.

But how close is close enough? And, is it possible to have too much of a good thing when it comes to muscular failure?

Let's find out next.

7.

SHOULD YOU TRAIN TO FAILURE?

Research on training to failure has found that sets whose tail-end reps get close to failure grow more muscle than sets whose reps didn't get very close to failure. But that same research holds many other sometimes surprising insights as well. Let's dig into them.

After numerous studies, it seems pretty clear that on average over the course of a 2-3 month training program, taking every programmed working set to failure shows *no clear benefit* over having all of the working sets stop at about three reps in reserve from failure, or basically when the bar/dumbbell/cable/machine begins to really slow down with each successive rep in most cases.

In addition, it has been found that training all the way to failure, while causing no clear growth upside, likely causes a *vastly disproportionate* amount of fatigue. This high level of fatigue accumulates over weeks of training and can prevent the trainee from stringing together as many productive workout sessions as possible.

On the other hand, training with a relative effort of much *more* than three reps in reserve seems to challenge the muscles so little as to cause notably less growth than training a bit closer to failure. Note too that our language of *more* than three reps in reserve refers to getting further and further away from failure. For example, this might mean bench pressing six reps at 225 pounds when doing 10 reps would have landed you at technical failure, which would represent having trained to four reps in reserve. What we're saying is that the sweet spot in this case would be bench pressing 225 pounds for seven, eight, or even nine reps.

Taking all of this information into account, a very viable approach to relative effort over the mesocycle of training starts to look something like this:

Start at your best guess of 3 RIR, and then write down your weight and reps for that workout.

Add weight and/or reps each week and try to match weight and/or reps from last week in every working set even though these additions may make each work set a bit harder each successive week.

For example, doing 100 pounds for 10 reps in week 1, then doing 105 pounds for 10 reps in week 2. Or, similarly, you could do 100 pounds for 10 reps in week 1, and then do 100 pounds for 11 reps in week 2.

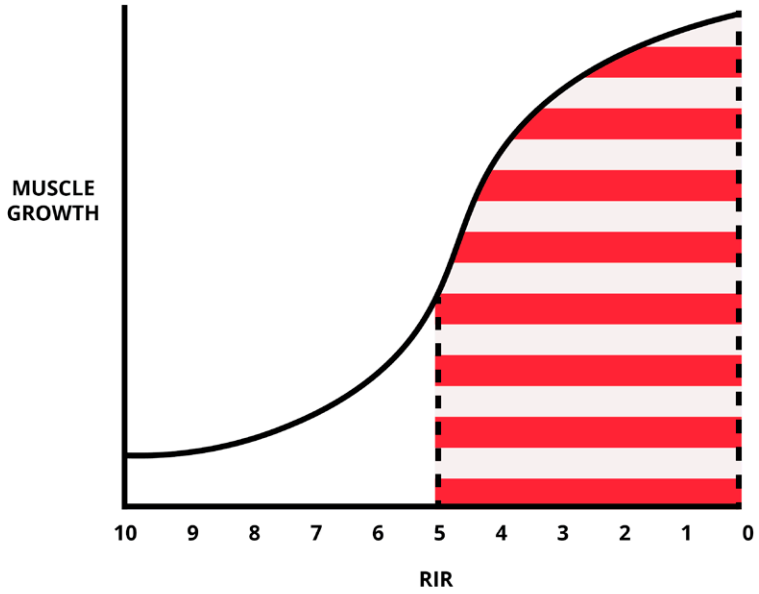
Sooner or later, you'll hit failure on most of your sets and fail to match or beat your prior week's performance. And this is very normal!

This will occur because you can't just keep getting linearly stronger forever. But it will also occur much faster than strength itself peaks because fatigue accumulates over the weeks and eventually adds to the difficulty of continued progression.

When this point of plateau and regression occurs, in most cases, the best practice will be to take some sort of break from hard training so that fatigue can dissipate. After that break, you can then begin the process of accumulation once again.

RELATIONSHIP BETWEEN EFFECTIVE REPS AND MUSCLE GROWTH

Sets taken to 5 RIR or less stimulate more growth than sets with higher RIRS.



This is the general process, but we can give some slightly more specific advice to you based on your current level of physique training advancement:

Beginner

- Starting at 4-5 reps in reserve (RIR) and ending at 2 RIR is great for technique establishment.
- More isn't needed for the best results!
- Grinding to failure often can teach and reinforce bad technique.

Intermediate

- Starting at 3 RIR and ending at 0-1 RIR is best.
- Embrace 0 RIR for exercises that *won't* fall on you if you fail, but limit yourself to 1 RIR for those that will!
- Intermediates will experience the challenge of pushing as hard as possible while demonstrating excellent technique.

Advanced

- Starting at 2 RIR and ending beyond failure for one week might be an effective idea.
  - 2 RIR in week 1
  - 1 RIR in week 2
  - 0-1 RIR in week 3
  - Assisted forced reps or drop sets in week 4
  - This is done to get as much short-term stimulus as possible and potentially push very growth-resistant muscles beyond their growth thresholds by even a small margin.

8.

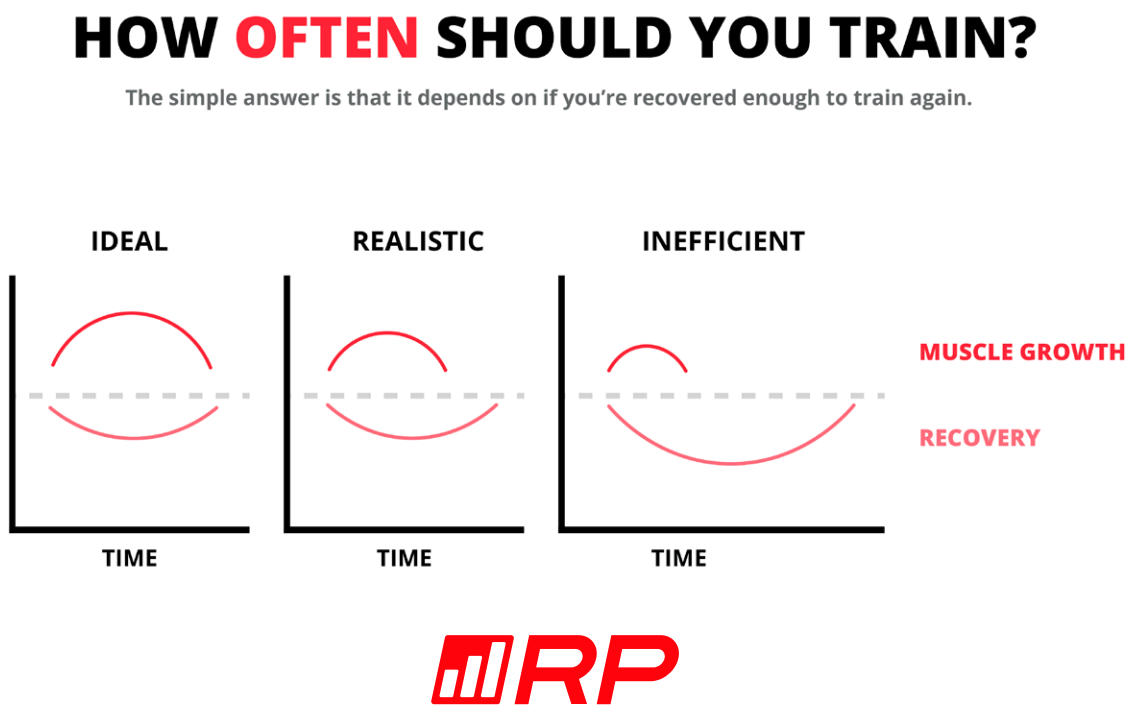
HOW OFTEN SHOULD YOU TRAIN?

Okay, we're really getting somewhere now!

You know how to choose exercises, how to execute them with good technique, how hard and heavy the working sets should be, and how many sets to do per muscle group and per session.

Now the question becomes: "How many times per week should we train for best muscle growth results?"

The simple answer is that it depends on if you're recovered enough to train again.

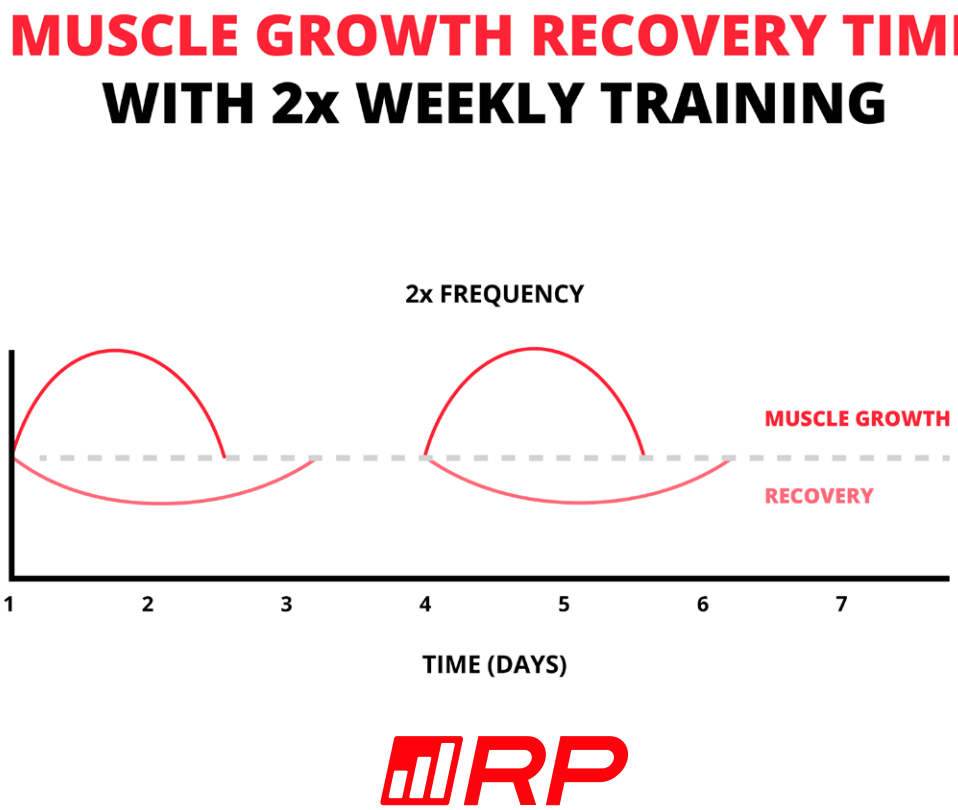


The core idea here is that the best training occurs when you're very recovered, and that the body has multiple mechanisms that make creating new growth stimuli much more difficult when you're not properly recovered as opposed to when you are.

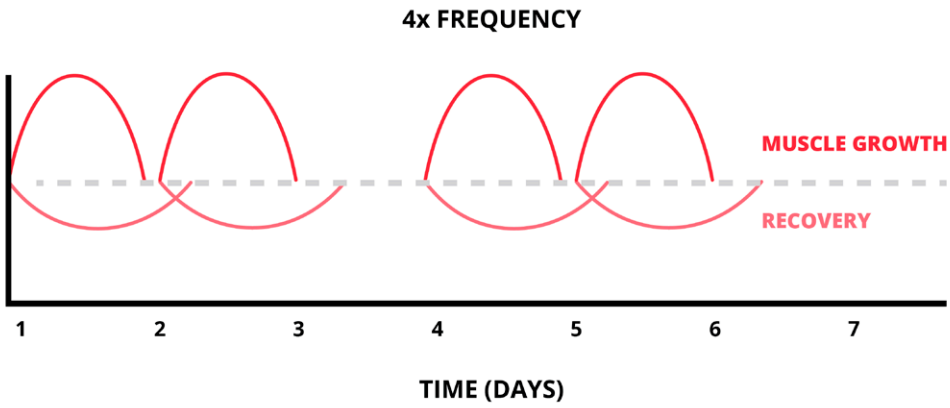
Essentially, you should train a given muscle again when the muscle has recovered enough to no longer feel sore *and* to perform at its normal strength levels or beyond. Muscles that are still sore or still too fatigued to perform at their usual abilities probably need more rest than they need more training.

That being said, probably one of the biggest factors in determining how long it takes a given muscle to recover is the number of hard sets it performed during the session prior.

For example, if you train your biceps with four working sets in a session, you might be able to recover every day or every other day depending on a few other factors like exercise selection, and you thus might be able to train the biceps four days per week or so. On the other hand, if you decided to have each biceps workout contain eight working sets per session, then you may only be recovered enough to perform two such sessions a week.



MUSCLE GROWTH RECOVERY TIME WITH 4x WEEKLY TRAINING



That's the general idea, but there are both top-end and bottom-end limits on session volume and effective training frequency. It's usually not maximally productive or time-efficient to train a given muscle with less than two working sets per session, and it's potentially too damaging and excessive to train most muscles with much more than 12 working sets per session.

The result is that you might be able to train a muscle as often as six times per week (if you do very little volume per session) or as infrequently as two times per week (if you train the muscle with more sets per session).

Training all seven days of the week or just once per week are suboptimal in most cases.

Lastly, higher frequencies can actually support higher total weekly volumes per muscle and thus more growth, but they are so taxing to all fatigue axes (including joint and connective tissue wear and tear) that, in most cases, very high-frequency programs can only be most effectively performed for a few months before a much lower-frequency "cooling off" period is required.

So yes, your friend might have grown her legs visibly from that crazy five times per week leg training program she did, but that's no way to train for the long-term. However, every now and again it can be a good idea when legs are the short-term priority.

Now that training frequency per muscle group is sorted, how many total sessions per week should you be doing?

The most important deciding factor for how many days to choose to go to the gym per week is adherence. If you give *anyone* a program which asks them to commit to more gym time than they can adhere to, it's just not worth it. In these cases, they may fail to the point that *nothing* productive will happen because their chronic inability to make all the sessions happen may discourage them from training at all.

So, if someone could ideally benefit from six sessions per week but their schedule makes four sessions a strain, giving them a program that features three sessions per week and seeing how they handle it is almost certainly the best solution.

For folks of different training levels, there is a bit more nuance:

Beginner: 2-4 sessions per week

- You don't want to burn them out
- You want to ignite their desire for more training by having them do a bit less, not create a desire for less training by having them do too much.
- They make great gains at low frequencies anyway because they are beginners and very sensitive to muscle growth stimuli.
- Most programs will be all muscles in every session, as there aren't enough sessions to focus on any muscle group in particular.

Intermediate: 3-6 sessions per week

- They won't burn out because they love training, so up to six times per week is fine for those who really want it and have already proven to be successful at a frequency of five times per week.
- They need more sessions to do each muscle justice as the volumes they need to do per muscle are climbing from their beginner days.
- Split programs become common (push/pull, upper/lower, etc.).

Advanced: 5-12 sessions per week

- For advanced lifters, each muscle needs to be first in its session at least once a week so that it can get the best, freshest, training stimulus.
- Training only two or three muscles per session is very common because advanced lifters get so fatigued just by training two or three muscles in a row that they can't do much more in a session without it being considered "junk volume."
- If they train only five or six sessions per week, they likely need to emphasize some of their muscles for a few months and emphasize others for a few months by putting emphasized muscles first in each session and by putting de-emphasized muscles last and capping them at just enough volume to maintain their size (MV), which is only about a third of the volume they will typically need to grow the most from. This concept is known as their maximum adaptive volume (MAV).
    - If they tried to train *all* of their muscles at around MAV, they would be running into junk volume problems daily at the end of each session.
- Twice-daily sessions can take you to eight, 10, or even 12 sessions total if desired as an advanced lifter. Thus you can focus on all muscles again, but your recovery and lifestyle need to be calculated very strategically to survive this much weekly hard training.

9.

HOW SHOULD YOU PROGRESS?

Once you understand training frequency, it's important to figure out how to progress from week to week to produce consistent muscle gains.

On the one hand, a progression that is too aggressive will lead to fatigue over-accumulation, performance loss, and the need to back off and let that fatigue dissipate. On the other hand, a progression that is too meek will result in lots of time wasted on sessions that are too easy to cause the best long-term growth outcomes.

In order to avoid both downsides, here's a progression formula you can try with your own training:

Choose:

1. A weight in the 5-30 rep range for any given exercise.
2. Enough sets to get you pumped and notably disrupted, which is usually somewhere between 3-5 sets in the first session of the mesocycle.

Then:

1. Do that weight at 3 RIR.
2. Do enough sets to get you pumped and notably disrupted, but stop when you do.
3. Write down your weight and reps for each set.

For next week's session of that same weekday:

1. Add enough reps, weight, or both to keep your RIR the same or lower it by one.

For example:

- 100 pounds for 10 reps at 3 RIR in week 1
- ??? pounds for 10 reps at 2-3 RIR in week 2 (answer can be 110 pounds)
- 100 pounds for ??? reps at 2-3 RIR in week 2 (answer can be 12 reps)
- ??? pounds for ??? reps at 2-3 RIR in week 2 (answer can be 105 pounds and 11 reps)

However, there is one hard rule for progression.

Your next week *must* beat your performance from last week.

This can be done just by a tiny bit at the same RIR or by only as much as 1 RIR lower. In other words, don't hop from 3 RIR to 0 RIR in one week, as the fatigue accumulation will just mess up future weeks.

Just seeking to add either 5-10 pounds to the load or one rep to the reps each time can do wonders for simplifying all of the above.

2. Add sets from last week:

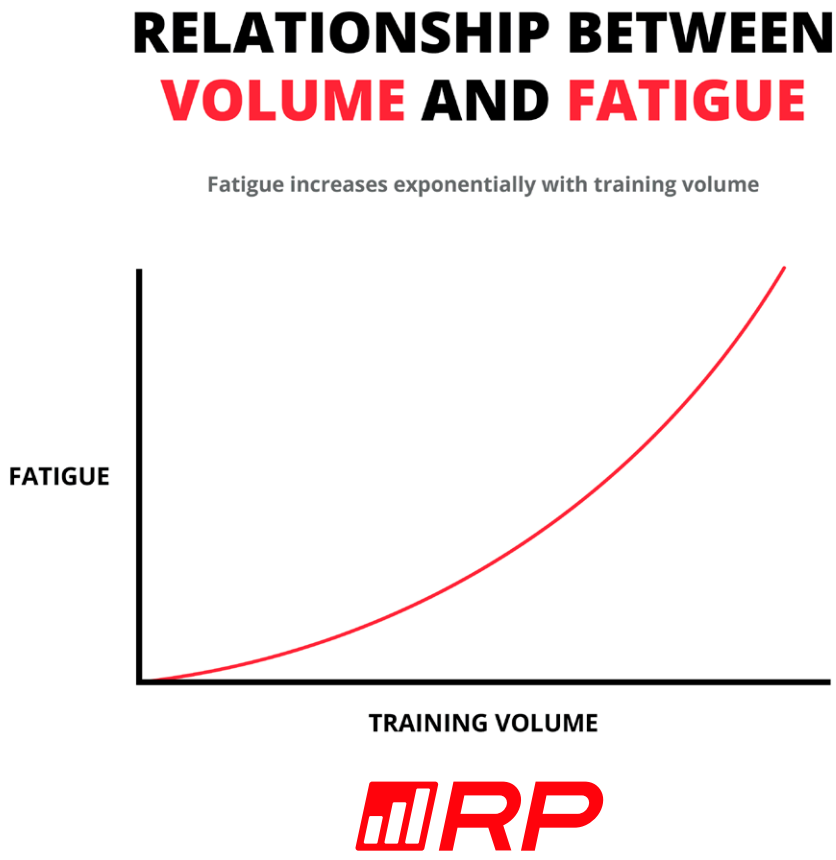
   - Add one set per session if you got little pump or disruption last time.
   - Don't add sets if you got a good pump and disruption last time.
   - Consider subtracting a set if you didn't remotely heal from soreness on time for the same muscle later in week.

10.

WHEN AND HOW SHOULD YOU DELOAD?

If you decide to follow our recommendations on load, rep, and set progressions across the mesocycle, you're going to be adding some combination of weight and reps each week. And in some weeks, you'll even be adding full sets to your workouts.

At some point, you'll be performing way above your previous abilities, and the increased levels of accumulating fatigue will start to prevent you from improving (or even matching) your performances from weeks past.



As obvious as this may sound, training while getting weaker and weaker is the opposite of progress.

And, it turns out that high levels of fatigue can actually reduce or even prevent muscle growth at the biochemical level. Because of this, it's incredibly important to bring fatigue back down to baseline before beginning another accumulation phase once your fatigue has gotten high enough to consistently prevent you from getting stronger for reps week after week.

If just one or a few of your muscle groups have maxed out their current performance but the rest of your muscle groups and system feel good, a recovery session is in order.

Here's how to execute a recovery session:

1. Since we all experience underperformance from time to time, don't do a recovery session unless you've had two sessions in a row for that same muscle that result in underperformance. On your second session of underperformance, finish that session as strong as you can.
2. During the next session for that muscle, do half the planned sets for half the planned reps and with half of the planned weight. If you're thinking, "Wow, that sounds like it would be *really* easy," you are correct! But this is the point. Recovery sessions are designed to reduce fatigue, something only easy training can do.
3. Resume the sessions the week after at two thirds of the planned sets, but keep going up as you were in weight and/or reps.
4. Add weight, reps, and sets from there as you normally would.

Using such recovery sessions can renew fatigued muscle groups for another week of hard training if needed, and using a few recovery sessions stacked together for half of a week can renew your progress for another few weeks if needed.

However, after about 4-8 weeks of consistent, hard training, multiple muscle groups will have likely demanded recovery sessions by that point. Your entire body and even your

mind will feel exhausted, overused, weak, and unresponsive, even down to diminishing the quality of your pumps.

Additionally, your per-session working set volumes may start to get *incredibly* high as you chase ever-diminishing returns, and almost every set will be taken to failure (or very close), which will inevitably increase the fatigue you're experiencing by an exponential factor.

This high local and systemic fatigue will cause you to underperform in pretty much all of your muscle groups and exercises in the same week. At this point, you're carrying so much fatigue that a simple series of recovery days won't cut it anymore.

When this happens, you'll need to deload, which is essentially an entire *week* of recovery instead of just a few days.

Its execution can look something like this:

1. First half of the week at half the planned sets for half the planned reps at 80-100% of last week's weight. These sessions should be heavy, but *very* low volume and nowhere remotely close to failure.
2. Last half of the week at half the planned sets for half the planned reps and half of the planned weight! This should be ultra easy, and you can even combine a few days in that latter half of the week into one workout since doing the workouts individually might have you driving 30 minutes to and from the gym to do 10 minutes of exercise each time. If you can condense your sessions, feel free to do so.

After such a deload week, you should be so recovered that you can productively train for another mesocycle before needing a break again.

Now that you're planning and organizing your training on months-long periods, let's take a look at some of the higher-level forms of training organization that can help you plan and experience progress for months and *years* on end in a very effective and scientifically-congruent way.

11.

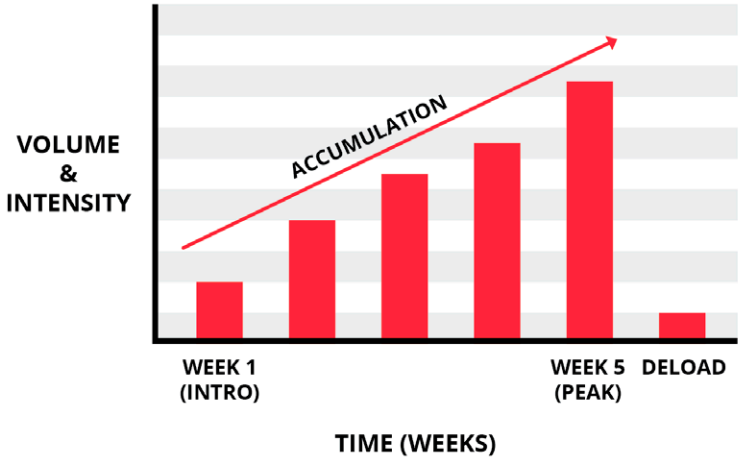
HOW SHOULD YOU PLAN TRAINING PHASES?

Each training week with an organized purpose is termed a **microcycle** in modern sport science.

An accumulation phase of 4-8 increasingly harder microcycles with a one-week deload at the end with the purpose of clearing fatigue is in total termed a **mesocycle**. And, about three mesocycles all sequenced in a row in pursuit of the same general goal is known as a **block** of training.

VOLUME AND INTENSITY PROGRESSION THROUGH A TRAINING BLOCK

An accumulation phase of 4-8 increasingly harder microcycles with a one-week deload at the end with the purpose of clearing fatigue is in total termed a mesocycle.



In the beginning of each block of training for muscle growth, your volume sensitivity is very high and your joint and connective tissue fatigue is very low because you're very fresh. Thus, you can both handle heavy loads and don't need a lot of sets of them to grow the most muscle. In addition, each workout highly disrupts your sensitive muscles, and it can take your muscles quite a while to heal from any single workout for that very reason. Because of these aligning factors, it may be wise to consider programming a few more of your working sets than usual in the 5-10 rep range and fewer in the 10-20 and 20-30 ranges. Lastly, your per-muscle group frequency of training can be on the lower end or around two or three times per week for nearly all trained muscles.

As the block progresses into the second and third mesocycles, you can consider adding a session to some of the muscle groups that seem to be healing quite fast such as the calves, biceps, and side delts for many people. Instead of training them two or three times per week, you can, over the next two mesocycles, increase them to three or four times per week on average. This session addition is totally optional, but doing so might eek out a *bit* more growth than sticking with the same session numbers the entire time.

Once you've added sessions, our recommendation is to add most or all of the new sets in the 10-20 or 20-30 rep ranges since these rep ranges don't cause as much joint and connective tissue fatigue as heavier sets.

When you add the extra days of training, you'll of course also be adding exercises.

We recommend adding exercises that comport well with the higher rep ranges you're using them in and ones that are easier than average on the joints. For example, while barbell squats might be best in the 5-10 range and hack squats might beat up your knees a bit too much to add later in a block, you could add sets of 20-30 reps in the leg press while going easy on the load and joint stress but *crazy* hard on the high-rep burning effort!

That being said, remember that you don't *have to* make any of these changes. But, if you're looking for ways to modify your successive mesocycles in a block, going lighter and higher frequency is probably a better move than the alternatives.

If you're really looking to consider advanced progression factors, you might decide to choose exercises with a lower SFR that stress the stretch and eccentric of the movement less than others in the first mesocycle of a block. Conversely, consider choosing exercises that are the highest possible SFR and stress the eccentric and stretch of the movement intensely later on when your physiology is more resistant to growth and needs to be exposed to as much stimulus as possible to grow further.

After an entire block of increasing loads, volumes, and training frequencies, it's very likely that you are going to be physically and mentally exhausted.

Research is very clear that when you're very fatigued, you cannot make your best gains in training. And, in some cases, you may not even be able to make any gains at all, which obviously presents an enormous problem when becoming as muscular as possible is the name of the game.

When you reach this point, it's time to bring fatigue down so much that you have enough margin to train for another block or two after with only deloads to bring it down. To bring this much fatigue down, you can choose one of two plans of action.

LOW-VOLUME MAINTENANCE PHASES

The first option is a low-volume maintenance phase of training. These phases typically last for 3-4 weeks, and feature maintenance volumes (or about a third of the number of sets typically featured in your normal block training) that remain stagnant through the entire mesocycle.

In terms of set and rep recommendations, it's probably best to perform most of your sets in the 5-10 rep range to allow volume sensitivity to climb back up as high as it can. Regarding frequency, training each muscle once or twice per week should allow fatigue to decline greatly while muscle mass is just barely preserved.

After deloading at the end of this very unchallenging mesocycle, you'll be *ultra* low on fatigue and incredibly sensitive to volume, upon which you'd begin the first low-volume mesocycle of your next three-mesocycle training block.

ACTIVE REST PHASES

An alternative to the maintenance phase is the **active rest phase**. This is a phase of just 2-3 weeks in which limited or no lifting at all occurs.

Simply put, the goal is to have fun, sleep a lot, eat well, and enjoy your life. This is also the perfect time to go on vacation, take a trip, or do something else you find physically and psychologically rejuvenating.

If you *do* go into the gym, try to keep it to no more than two total sessions per week. And just to be clear, we're talking about two total sessions across *all* muscle groups. Within these two total weekly sessions, use less than 50% of your normal weights for half the per-session sets and reps you would usually perform. These ultra-easy weeks can reduce fatigue to almost zero, which can prime you for another productive block or two of training ahead.

How do you choose between these strategies?

If you need a diet break at maintenance along with a training break *and* you want that diet break to be a bit longer than 2-3 weeks, a maintenance phase (or even several in a row) is your best bet.

If your diet dynamics don't require a maintenance phase and you want to get back to growth training as soon as possible, definitely give the active rest phase some thought.

12.

BEGINNER VS. INTERMEDIATE VS. ADVANCED TRAINING

Different training foci can change based on your level of advancement in lifting, so it's important to understand where you fall on the spectrum.

To simplify things, we've outlined the following parameters to help you identify yourself into one of the three training age categories:

Beginner

- You "just lift" and you keep getting bigger and stronger automatically without much complexity.
- You get stronger even when losing weight.
- You're most likely to have lifted for 0-3 years, although this time frame could be longer in some cases.

Intermediate

- You've hit your first plateau and had to figure your way around it. You find that you need to nail the basics consistently to keep progressing.
- You get a *little* stronger during weight loss periods but only by a small margin.
- You're most likely to have lifted for 3-7 years, although this time frame could be less or more.

Advanced

- If your sleep, recovery, nutrition, and training isn't meticulous and well-planned, you simply don't make gains.
- Best case scenario, you maintain rep strength during weight loss phases, but often you lose a bit of rep strength.
- You're most likely to have lifted for more than seven years, although this time frame could be less or more.

If you're not sure which one you are, choose the less experienced of your two best choices and go from there. So if you think you *might* be an intermediate but you also *might* still be a beginner, do yourself the favor of assuming you're a beginner and functionally operate out of that assumption.

Once you've made your choice, or if you train other individuals who are of a certain advancement in their training age, you can incorporate some of the following training recommendations for each level.

Beginners should:

1. Do mostly sets of 5-10 reps for getting stronger while improving technique.
2. Focus mostly on the compound basics as those will target the most muscle and build the most strength and movement competency for later.
3. Focus tons on improving and solidifying their technique because proper technique will pay increased growth and decreased injury risk dividends for the rest of their training career.
4. Avoid 1 RIR or harder training as that's when fatigue tends to negatively impact the technique of beginner trainees.
5. Avoid near-MRV volumes to the point of performance declines for the same reason as mentioned in point four.

6. Train each muscle in each of their 2-4 total weekly sessions because most beginners will neither need any more than that for best gains nor psychologically be able to handle much higher frequencies.

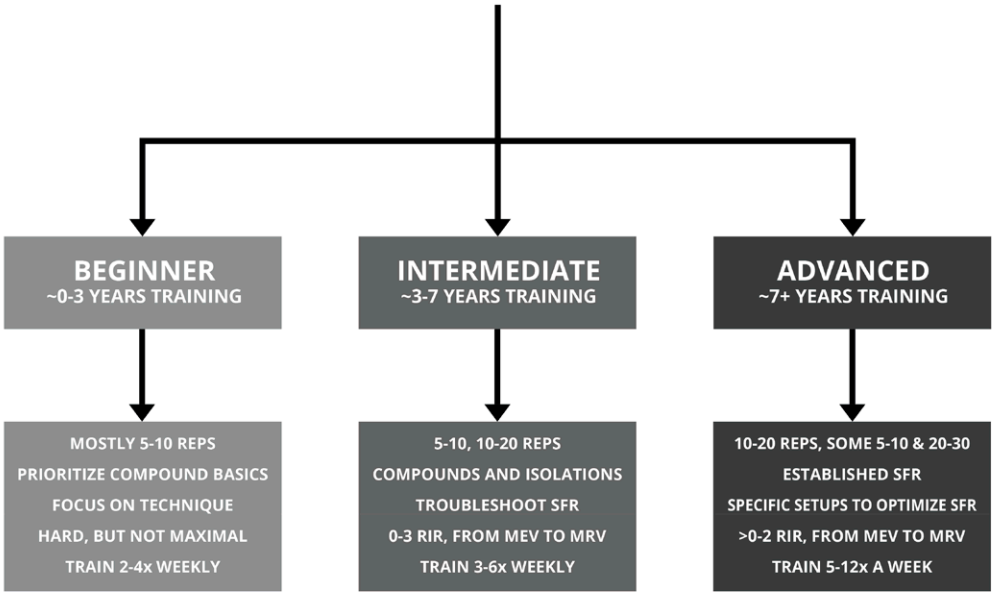
Intermediates should:

1. Do mostly sets of 5-10 and 10-20 reps as they can now do higher reps without technique breakdown. At this point, they will also likely need the variation of extra rep ranges to keep their gains coming along at the best pace possible.
2. Focus mostly on the free weight compound basics and some isolations. This is primarily to get great results while still building a strong core, which will support more muscle building later. At the same time, intermediates should start to use some different machines and exercises to see which exercises have better SFRs for their unique anatomy.
3. Focus on altering their basic technique to fit their personal SFRs. They should now be much more skilled in detecting tension in their muscles as well as positions that cause the most and least joint stress. Utilizing this knowledge should make their technique better in most exercises.
4. Push from 3 RIR to 1 or even 0 RIR for most mesocycles while focusing on breaking barriers toward the end of each mesocycle. The intermediate stage is when most people learn what “hard” training really means.
5. Train from MEV to MRV in most mesocycles as this will now be the best way to ensure maximum gains.
6. Train each muscle 2-4 times per week across 3-6 total sessions because they both need the extra sessions to make the best gains and can psychologically handle the extra work.

Advanced lifters should:

1. Do mostly sets of 10-20 reps, with some in the 5-10 rep range and some in the 20-30 rep range. In most cases, advanced lifters will be a bit too strong relative to their joint and connective tissue abilities to be able to survive intact with too much training coming from the heavy 5-10 rep range.
2. Focus mostly on the best SFR exercises for them instead of exploring the gym for new exercises to try out. Advanced lifters should still explore to some degree, but most of them have very good ideas regarding which exercises will work well and which exercises may not.
3. Explore techniques that maximize the SFR especially by technically altering commonly performed lifts. For example, advanced lifters might put their feet closer together during squats and use a squat wedge in addition to wedged weightlifting shoes so that they can even better target their quads.
4. Push from 2 RIR to failure or even beyond *while preserving their mind-muscle connection*. This implies ultra-hard training that still targets the right muscles at high SFRs.
5. Train from MEV to MRV in most mesocycles. However, advanced lifters might have such high MEVs and low MRVs that this may not be a very big window for them anymore. In some cases, this could require a modest addition of 1-2 sets per session per muscle over the entire mesocycle.
6. Train each muscle 2-6 times per week across 5-12 sessions with two-a-days used in a phasic manner over the block if they are interested in competition or the highest levels of personal physique transformation.

RECOMMENDED TRAINING STRATEGIES BY TRAINING STATUS



If you're not sure which one you are,
choose the less experienced of your two best choices and go from there

13.

HOW DO YOU PRIORITIZE MUSCLE GROUPS?

When people say that they're "prioritizing" a muscle, what does that even mean?

In very basic terms, it means they *really* care about that specific muscle group growing as much as possible to the extent that they're willing to arrange their training in a special way to ensure growth.

4 MOTIVATIONS FOR PRIORITIZING MUSCLE GROUPS

More specifically, you can have some combination of the following motivations for prioritizing a muscle over others:

1. **One side or muscle is bigger than the other.**

    - Maybe one bicep is bigger than the other.
    - Maybe your legs are disproportionately bigger than your upper body.
    - Maybe your chest is much bigger than your back.
    - Maybe your back is impressively thick but not very wide.

2. **Limited resources require prioritization.**

    - Going hard on *all* muscle groups leaves very little room to push any one of them much harder than you're already pushing it.
    - For example, if you wanted to prioritize your legs but you're still training your upper body as hard as possible, you might only have the energy to do a *little* bit more leg training than usual, which may not be enough to ignite any meaningful change.
    - But, if you reduce the amount of work you're doing on your upper body, that frees up time, energy, and recovery resources to let your legs grow bigger if you want to prioritize them.

3. **You just plain old want something to stand out.**

    - Having big arms is *never* wrong, and if you want bigger arms, you can prioritize them so they get bigger than everything else at a faster rate.

4. **Time constraints**

    - If you can only train three times per week, for example, but you're an intermediate and want to grow your whole body, training all of the muscles as much as they need might lead to 40-set or even 50-set workouts, the latter half of which will inevitably be junk volume-heavy and littered with abysmal SFRs.
    - Instead, it would be better to put half of your body on maintenance volumes, then train the other half from MEV to MRV for a few mesocycles in a row (a training block), switch, and then repeat for long-term total body growth that occurs in spurts rather than on a continuous basis.

These are the best reasons to consider prioritization.

Now, let's take a look at the six steps of *how* to do it.

6 STEPS FOR PRIORITIZING MUSCLE GROUPS

STEP 1: Train the prioritized muscle from its local MEV to its local MRV. Systemic fatigue should not be the limiting factor here.

In other words, make sure that your inability for that muscle to keep making PRs at the ends of your mesocycles is occurring because the muscle itself is being wiped out, not your cardiovascular abilities or other systemic contributors.

Relative to this specific point, remember that *muscle* fatigue causes growth. Systemic fatigue *reduces* growth.

STEP 2: Train the prioritized muscle first in most of its weekly sessions.

If you tell someone you're *really* prioritizing your back, your back better be the first thing trained in most of your upper body sessions. Otherwise, you're not *really* prioritizing it at all.

Training a muscle first or early in most sessions means you train it fresh with as much energy dedicated to causing a muscle growth stimulus as possible. This also gives you the best chance of never accumulating any amount of junk volume for your prioritized muscle group, as every set is likely to be if very high quality.

STEP 3: Consider training it the hardest after a day off each week.

For example, if Sunday is your rest day, that means that your session on Monday would feature your prioritized muscle group being trained first and likely hardest when compared to your other weekly training sessions.

STEP 4: Choose exercises that have the highest RSMs with SFRs considered but not exclusively.

Raw stimulus magnitude (RSM) is the total amount of muscle-growth signal you send to a muscle. In the context of full-body training, the SFR is more important because it takes fatigue into account, which prevents the fatigue overflow of some muscles from affecting others.

But, if you are prioritizing a certain muscle group, there is some logic to allowing plenty of room for it to accumulate loads of fatigue while reducing your training volume potential for other muscles, since you're not pushing them as hard anyway and don't need as much volume allotted to them at the time. To keep it simple, think

of it like a monetary budget. If you really value eating out at classy, high-end restaurants, you might have to create more room in your budget for eating out by limiting the amount of money you spend on clothes each month. It's a give and take.

In short, it might not be the worst idea to smash your target muscle group with enough high RSM movements and loads to drive maximum growth (even if it comes at the temporary expense of other muscle groups growing at their fastest).

STEP 5: Increase the frequency of training for your prioritized muscles toward the higher range of what is sustainable.

If you normally train biceps two times per week, for example, prioritizing them may lead you to increase their frequency to three times per week.

STEP 6: Reduce your training of the most interfering muscle groups to MEV or even MV.

Reducing the training of the most systemically and/or axially-fatiguing muscles is usually wise when prioritizing other muscles. The most common instance of this would be reducing your leg and back training, for example, if you want to bring up other muscles.

Ultimately, you should reduce as many muscles to MEV or MV as you need to in order to have lots of energy to train the prioritized muscles. Unfortunately, reducing all other muscles by a mere set or two per week probably won't offer you much (if any) additional training capacity in most cases.

Lastly, consider synergists as well. If your goal is maximum triceps growth, take a look at your pressing movements for chest and reduce them as much as needed (often down to MV volumes) to make sure the triceps are nearly always either recovering from a hard triceps session or are fresh and ready to be trained hard again, instead of recovering from assisting the chest in hard chest training.

If you're prioritizing more of your muscles, have larger and stronger muscles, and are more advanced, you'll need to put more muscles into MEV or MV volumes to buy enough "fatigue clearance room" to make the conditions best for growth for your prioritized muscles.

Again, thinking about the prioritization of your muscle groups in terms of a monetary budget can be an extremely helpful framework of consideration as you do your best to structure your training plan accordingly.

14.

PREVENTING AND MANAGING INJURIES

You can't ever make the gym a *completely* safe place to be. Steel is heavy and hard, and when it falls, sometimes people get hurt.

But, through your approach to training, you can do things as intelligently as possible while reducing the chance of injury.

Here are four tips on how to do just that in your muscle growth training plan:

Tip 1: Don't be an idiot.

- Always warm up, and be sure to keep your technique as clean as possible.
- Avoid pointless gym challenges and lifting heavy at random. In other words, when your slightly crazy training partner asks you, "Do you think we could curl 225 if we both grabbed the barbell at the same time?", your best bet is to politely decline for the sake of an extended training career.
- Don't lift any loads you can't handle for at least 5 *very controlled* reps. You're a bodybuilder! Not a powerlifter.

Tip 2: Ramp up your volumes and loads slowly.

- Add no more than 1-2 sets per muscle group per session. Rapid volume increases have been correlated very tightly with injuries that tend to occur just after an abrupt escalation, so increase your sets slowly.
- Add no more load than reduces your RIR by one in each week. In most cases, this means going up by 5-10 pounds. Don't slap an extra 45 pounds on the bar because "you feel like it." Being patient will notably reduce your injury risk.
- Don't train with overlapping soreness often. Training with microdamage may predispose you to injury. If you train with overlapping soreness on occasion, don't add any more sets to the session you're doing or to the one before its next week's equivalent so that you're not doing more when you already can't recover from doing the normal.

Tip 3: Pay attention.

- If a certain technique hurts your joints more and more with each rep or set, pause, rack the weight, reevaluate, and make a change if the pain continues.

Tip 4: Deload like you're supposed to.

- Don't skip the deload or cut it short! Deloads can be boring but your body *needs* them to literally heal. Skipping or cutting a deload short may be asking for trouble in the form of injury in your next mesocycle.
- Don't add work during your deload cause you're itching to train. Deloads are supposed to be easy and low-volume. If your deload isn't super easy, it's not much of a deload. In fact, it's just another week of hard training where your fatigue doesn't really fall much in preparation for the next mesocycle, which is both rather unproductive and arguably dangerous. Failing to deload properly will cause fatigue to accumulate much faster than anticipated in that next mesocycle, which will undoubtedly lead to problems including an increased risk of injury.

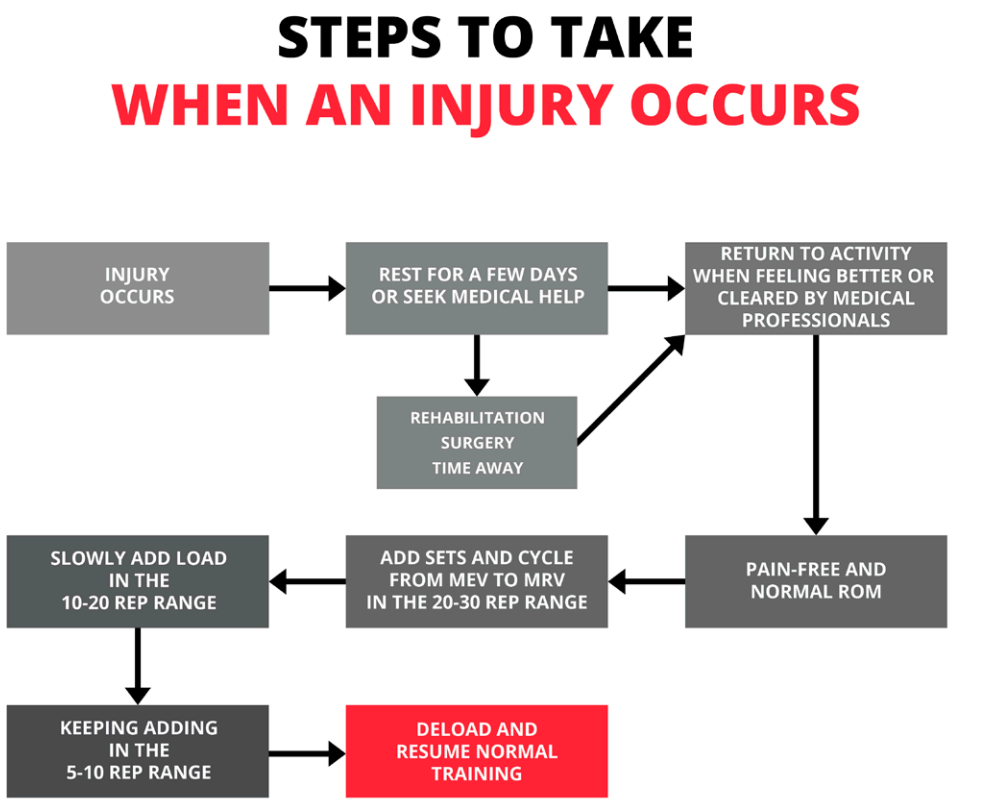
Hopefully, you will take all of this insight into account and never get hurt.

But, because the nature of hypertrophy training is one of overload and pushing beyond limits with heavy weights, injury for almost everyone at some point in the game is nearly inevitable.

If and when you do get hurt, please give the following steps a look before you make your next move.

But before you read through the following steps, please remember that when you're hurt in a certain muscle or joint but still want to train other muscles that use other joints, make sure the rest of your training doesn't bother the injury to any meaningful extent.

This way, you're not just continuously re-aggravating the injury and not letting it heal completely.



This way, you're not just continuously re-aggravating the injury and not letting it heal completely.

For the injured area itself:

1. See a medical professional and do all the rehabilitation, surgery, and time away they instruct.

2. When you're cleared for activity, start with sets of 20-30 reps at 5-10 RIR and work on your range of motion. You can end this phase of training when you can perform a full range of motion for the movement or joint without pain.

3. When you can navigate the injured area pain-free with a normal range of motion, work up to 3-0 RIR in 20-30-rep sets but only for a few sets a few times per week.

Just-injured tissues have very poor volume tolerance, so doing a bit fewer sets like 1-2 per session 2-3 times per week is better than doing more sets.

4. Add sets and cycle from MEV to MRV in the 20-30 rep range. This is done once you're *very* comfortably recovering from just a few sets of 20-30 reps.

5. Once you've spent time training comfortably and pain-free in the higher rep ranges, slowly add load to some of those sets to get into the 10-20 range. Add load slowly and let the reps fall by two or so per session in most cases. Don't just jump from your 30RM to your 10RM unless you want to get hurt again.

6. Keep slowly adding load, and eventually dip back into the 5-10 range. Once you've been there for a few weeks, deload, and then you should be in the clear to resume your normal training protocols.

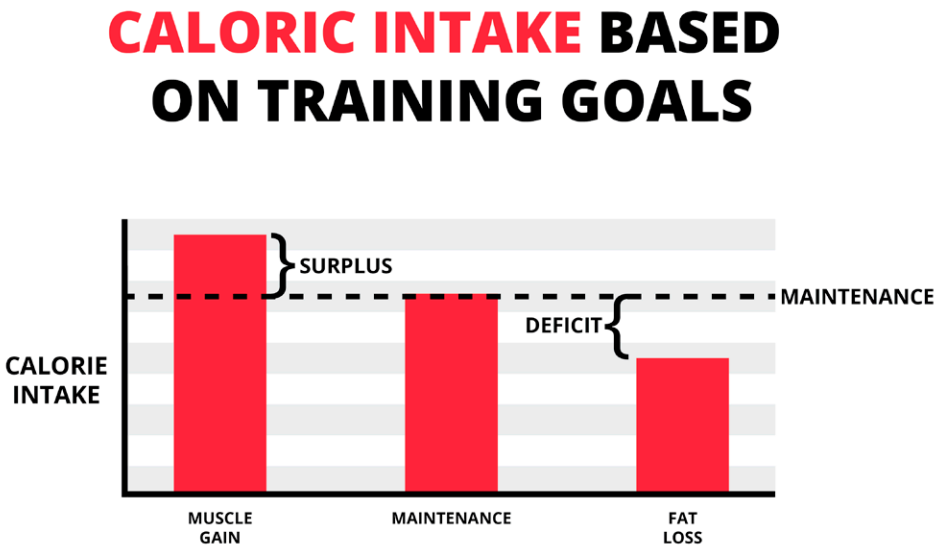
15.

MATCHING YOUR TRAINING TO YOUR DIET

Making sure your eating matches your training is critical for the best muscle growth results.

After all, muscle growth is fueled by food, and your muscle tissue is literally made of the chemicals you consume from food.

In most cases, matching your training to your diet comes down to identifying your primary goal. Usually, there are three main options: training to gain as much muscle as possible via a caloric surplus, training to maintain via isocaloric dieting, and training for fat loss and muscle retention via a caloric deficit.



If you're trying to gain as much muscle as possible, your best bet is to train across the entire volume spectrum. In nearly all cases, this means starting your mesocycles at your best guess of your MEV and finishing them around your MRV. And obviously, it's important to make sure that your diet matches the level of focus and intensity you are bringing to your training sessions, which almost certainly implies eating in a caloric surplus.

If you're already *eating* in a caloric surplus to gain muscle, you have to make sure you're actually *training* hard enough to grow muscle. Unfortunately, less voluminous training with lots of surplus food will predictably cause fat gain you might not be interested in. And, as you might imagine, this is a mistake many well-intentioned lifters have made over the years.

If you're eating simply to maintain, you can still definitely train from your MEV to your MRV in an attempt to gain as much muscle as possible. However, unless you're a beginner, this approach *probably* won't yield as much growth as you'd like since eating at maintenance fails to account for one of the biggest ingredients in the recipe for optimal gains: a caloric surplus. If you *really* want to gain as much muscle as possible and you are justifiably lean enough to do so, your best bet is to structure your food intake in context of a caloric surplus.

That being said, sometimes eating and training to maintain your current body composition is the most appropriate thing. For example, if you need a break from hard, high-volume training and you want to train at your MV for a while, eating at maintenance is ideal. This would also be true for anyone currently in an active rest phase and in a deload no matter the phase.

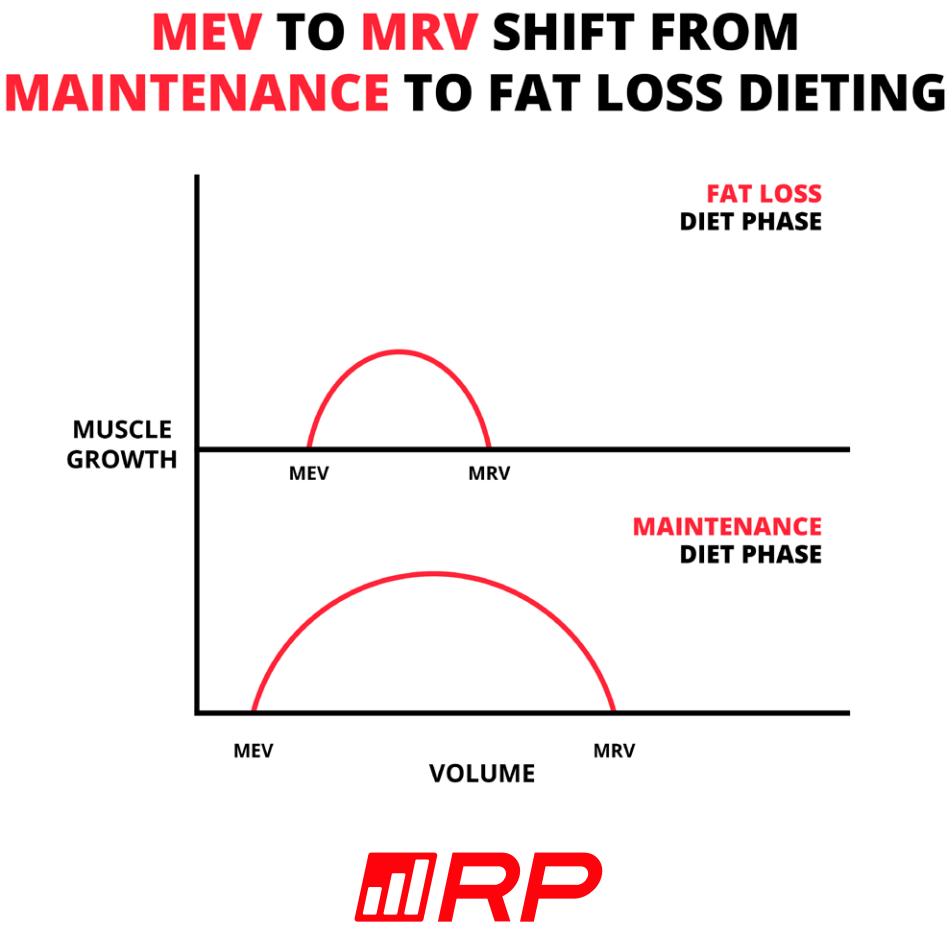
Lastly, if you're dieting to lose fat, training from your MEV to your MRV is a wise idea to preserve as much muscle as possible. If you don't train hard enough, you will likely (and very unfortunately) lose muscle in hypocaloric conditions.

That being said, a few more intricate tips about progressions apply when training for muscle growth in a caloric deficit.

Here they are:

1. Make smaller load and rep jumps between sessions as your adaptive abilities will be worsened and your fatigue accumulation will occur more quickly than usual.

2. Expect your MRV to come down to you. If your usual MRV for back training is, let's say, about 20 sets per week, you might be surprised to find that your MRV for back training during a fat loss phase is only 16 sets per week. If you autoregulate your training, this will occur automatically (and this is one of the best reasons to autoregulate your training). But definitely *don't* go chasing your hypercaloric MRV while on a deficit as it will almost certainly be out of your reach.



3. Don't prioritize any muscle groups, and train all the ones you don't want to lose size on at MEV+. If you prioritize muscle groups during a fat loss phase, your body doesn't really have the food to make a lot of gains anyway, and the reduction of your non-prioritized muscles to MV may result in significant losses for them.

16.

TROUBLESHOOTING LACK OF PROGRESS

There could be many reasons you're not seeing the results you want, but the biggest reason most people experience a "lack of progress" is that they're expecting linear gains like they made when they were a beginner. And yet, because they're more advanced now, they should actually be expecting gains of *diminishing* magnitudes.

The second biggest reason you might not be getting the gains you want is just genetics. Not all of us were built to get 20-inch arms, and dare I say *many* of us were built for accomplishments slightly more beneficial to society! If you've made peace with your training age and your genetics, there may be some other factors to attend to that can improve your results.

Here are eight such factors:

1. **Appropriate and *consistent* training and diet**

   If you're inconsistent, the inconsistency is the problem with your gains. Only when you can fit together tight strings of completed workouts over days, weeks, and months will you see your best gains. So, if a lack of consistency is something that has been holding you back from making your best strides forward, this is certainly the most obvious factor to address.

2. **MEV-MRV training for each muscle group targeted**

   Do you know if you're hitting your MRV on your calves?

   If you've never taken their training volume high enough to stall them out, you don't actually know. But seriously, how many people actually know what their MRV is for their calves?

For all you know, they might benefit from *much* more volume than you're currently training them with, and no amount of extra intensity will make up for that. If you're curious about a muscle group, slowly raise the number of sets you train it with and see where growth is best. It might be higher than you think!

On the contrary, you might be smashing your pecs with just-around-MRV or even higher volumes. You can instead reduce the amount of training you do for pecs that barely gets them pumped and a bit sore, and see if training at that level or just above it causes better gains. If the gains are no better, *slowly* raise the amount of volume you're doing and see where the best workouts occur. They might be at much smaller volumes than you're used to, and you might get better growth by doing less.

In either case, the sweet spot is to be between your MEV and MRV, not flirting on the edges in either particular direction.

3. Getting fatigue management in line

If you're not sleeping enough to be well-rested (usually 7-9 hours per night), if intense levels of stress are killing your energy levels, and if you don't have regular times during most days to unwind, you may not be gaining at your best rates.

4. Making sure your chosen exercises have high SFRs and especially high RSMs

Don't just go through the motions! If an exercise has a low SFR for you, try another one. Use movements that give you the best SFRs and the highest RSMs for lagging muscle groups so that you know you're using the best weapons for the battle. For example, it would be odd to complain about suboptimal hamstring growth if you've never even tried most of the best hamstring exercises. Be logical in your exercise selection, and always be willing to make changes to your plan as certain exercises ebb and flow between varied levels of perceived effectiveness.

5. Making sure SFR is high via the right rep ranges per muscle

Some muscles get very high SFRs going heavy while other muscles seem to benefit more from lighter training. If you notice you're experiencing *crazy* pumps, burns and fatigue from a given rep range and not as much from other rep ranges for a certain muscle, do the logical thing and bias a bit more of your training toward the rep range that seems most effective.

For example, doing leg presses for sets of 5-10 might just hurt your knees and never really seem to stimulate your quads much. On the other hand, doing leg

presses for sets of 20 might absolutely destroy your quads in the best way possible. If you had never tried the higher rep range in this case, you might have erroneously written off the leg press as a low SFR exercise.

In other words, be willing to explore multiple rep ranges across your movement patterns in order to identify which ones will be the most conducive for hypertrophy.

6. Being hypercaloric in gain phases and adding net bodyweight over months and years

If you want to be jacked, and all of the lifters you look up to that are jacked weigh over 180 pounds, there's really no way you're going to wind up looking jacked if you only weigh 160 pounds.

Unless, of course, you're in a hypercaloric condition and are actually gaining net tissue as you move up slowly to 180 pounds!

Don't fall for the "gaintaining" folly. Instead, gain weight slowly and steadily if you want to be bigger.

7. Attending to training-side fatigue management

Training manipulations that reduce cumulative fatigue such as deloads, active rests, and low-volume phases are critical in programming, especially when you're not a beginner anymore.

A very common "instant PR" formula is to take a late beginner or early intermediate and have them do a deload or active rest for the first time. A few weeks later, they're almost always making astonishing strength and size gains. As easy as it is to sleep on your recovery and fatigue management, properly implementing such phases is an incredible way to problem-solve any lack of progress.

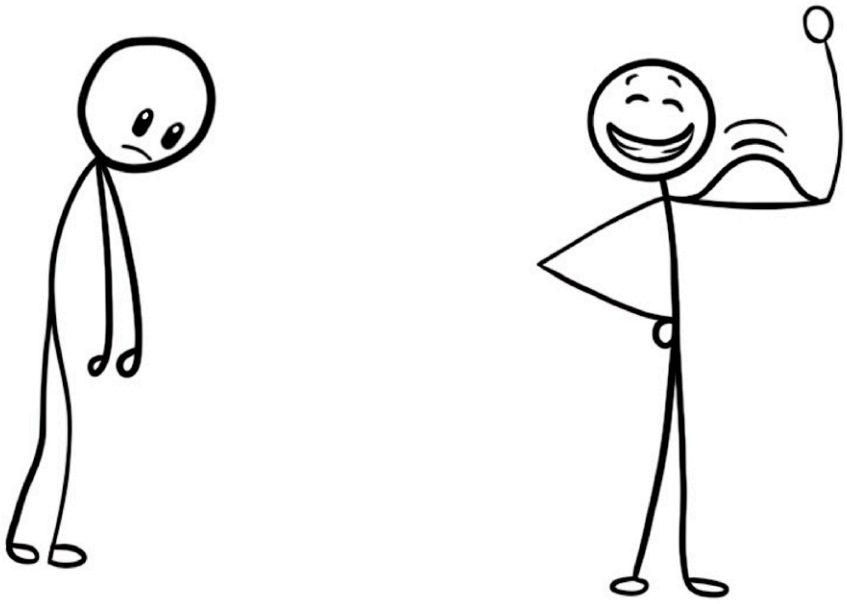
8. Making all the above changes for long enough

It's easy to say you tried the changes but they "didn't work" if you only tried to implement them for a few days or weeks.

That's kind of like jumping into a caloric deficit for four days and then saying your new diet "didn't work" because the scale only noted a decrease of a few tenths of a pound across your 96-hour experiment.

If you *really* want the best results, implement some of these troubleshooting tips for *months* and it's very likely your gains will return.

SKINNY AND SAD TO JACKED AND PLEASED



If you'd like to consume this guide in video form, check out our Hypertrophy Made Simple series on YouTube.

Hypertrophy Made Simple YouTube Series

Wherever your fitness journey takes you, we wish you the very best, and we hope to have more and more resources with which to help you at every step along the way.

Until next time!

RP HYPERTROPHY APP

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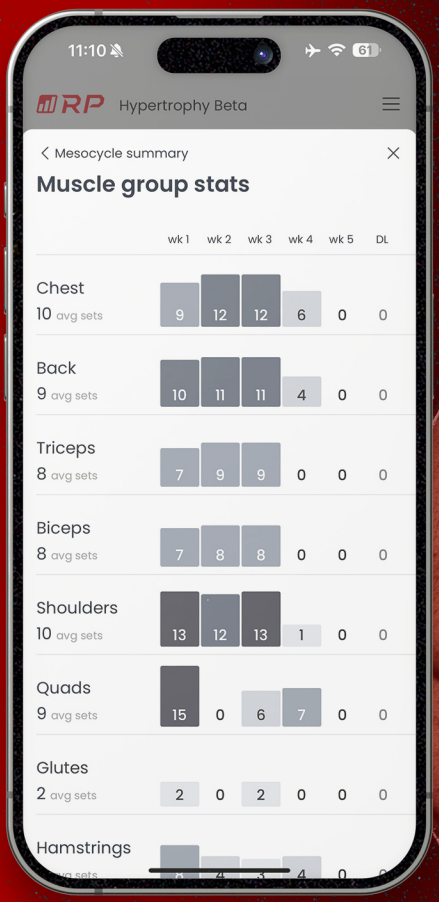

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