

A black and white photograph of a man in a gym performing a squat. He is wearing a dark t-shirt, blue jeans, and a black weightlifting belt with the word "RISE" and a red logo on it. He is holding a barbell across his upper back. The background shows gym equipment like a rack with weights.

JEFF NIPPARD'S

SQUAT

SPECIALIZATION PROGRAM

A black and white photograph of a man in a gym, performing a squat with a barbell. He is wearing a light-colored t-shirt with a 'RISE' logo on the back. The background shows gym equipment like a rowing machine.

JEFF NIPPARD'S

SQUAT

SPECIALIZATION PROGRAM



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ABOUT ME

Jeff is a professional drug-free bodybuilder and powerlifter. Through his informative and entertaining [Youtube channel](#) which has gathered a fan-base of over 800,000 subscribers, Jeff aims to share the knowledge he has gathered through university education and field experience with others who are passionate about the science behind building muscle, losing fat and getting healthier.

He earned the title of Mr. Junior Canada for natural bodybuilding in 2012 and as a powerlifter, Jeff held the Canadian national record for the bench press in 2014. As a powerlifter, Jeff has claimed a 502 lb squat, 336 lb bench press and a 518 lb deadlift with an all time best Wilks score of 446.

With a Bachelor of Science degree in biochemistry, Jeff has gathered the requisite scientific knowledge to compliment his practical experience acquired through training and coaching. Jeff has coached women's bikini and men's bodybuilding national and provincial

champions, professional natural bodybuilders and nationally and IPF Worlds qualified raw powerlifters. He has presented seminars on Block Periodization, concurrent training and nutrition and training for natural bodybuilding in academic settings including the 2014 Online Fitness Summit and at the University of Iowa. He has aspirations of completing a PhD in exercise science or a related field.

Jeff currently lives in Kelowna, Canada where he is producing informative YouTube videos and [podcasts](#) while preparing for his next competition season in natural bodybuilding in 2019.



KEY TERMS

DB: Dumbbell

LSRPE: Last set RPE

PROGRESSIVE OVERLOAD: The gradual increase of stress placed upon the body during exercise training. In training contexts, this generally involves progressively increasing some lifting parameter over time (usually weight or reps)

ROM: Range of motion

RPE: Rate of perceived exertion. A measure of how difficult a set was on a 1-10 scale, with 10 meaning muscular failure was achieved.

TEMPO: The speed at which the lift occurs.

ECCENTRIC: The lowering ("negative") aspect of the lift

CONCENTRIC: The contracting ("positive") aspect of the lift

EFFORT: How hard you are pushing the set relative to failure. Measured with RPE or %1RM

LOAD: The weight of the external resistance

INTENSITY: Effort and load

VOLUME: Total amount of work performed. Usually approximated as sets x reps x load

FREQUENCY: How often you directly train a given muscle per 7 days

HYPERTROPHY: The growth of (muscle) tissue

AMRAP: As many reps as possible (with good form). Often performed as a test to determine max strength

PRIMARY EXERCISE: Main heavy compound movements that involve a large muscle mass (for example: squats, bench presses and deadlifts)

SECONDARY ("ACCESSORY") EXERCISE: Compound exercises which involve less muscle mass (for example: cable rows, lunges, hip thrusts, military presses, pull-ups, etc.)

TERTIARY ("ACCESSORY") EXERCISE: Isolation movements involving only one joint and primarily targeting a single muscle – these are usually used to isolate a specific, smaller muscle or to generate metabolic stress

PERIODIZATION: The organization of training over time

WORK CAPACITY: The ability to recover from a high volume of training



F.A.Q.

1: How do I know if I am progressing?

A: This is a marathon, not a sprint. Since this is more of a strength focused program than many of my other programs, it is much easier to track progress in an objective way. At the end of the 10-week program, you will perform either an RPE 9-9.5 1 rep max test, or an AMRAP ("as many reps as possible") test with 95% of your previous 1RM (1 rep max) on the squat. If you are stronger than you were at the beginning of the program, then you've made progress. When it comes to tracking progress visually, it can be more difficult and less objective. It can be a challenge to accurately determine if you are making visual progress day-to-day or even week-to-week. Taking physique progress photos every 4-6 weeks and comparing them side by side is a good way to detect visual differences that you simply wouldn't notice in the mirror. But ultimately, because of the relationship between strength gain and muscle gain, the main metric I want you to use for tracking your progress is strength. If you're getting stronger, you're progressing. It is strongly recommended to log every workout either in writing (print the program out or use a separate notebook) or in an app, so you don't have to rely on memory to keep track of personal

strength records. Taking body measurements a few times a year can also be helpful (arms, thigh, waist, neck) but simply focusing on steady strength progression will be your best proxy for determining muscular progress.

2: How much muscle and strength can I expect to gain?

A: How you respond to training will be largely determined by genetic factors and your specific training history (i.e. how close you are to your genetic "limit"). As a rough ballpark estimate for early intermediates with about 1-2 years of lifting experience, you can expect to gain roughly 0.5-1 lbs of muscle per month (6-12 lbs of muscle gained in your second year). For intermediate-advanced trainees, 0.25-0.5 lbs of muscle gain per month is realistic without also accumulating excessive fat gain (3-6 lbs of muscle gained per year). For practical purposes, women can divide muscle gain estimates in half.

Strength gains will follow a similar trend to muscle growth. Since this program highlights the importance of technique, you can expect to see a great deal of strength gain if your squat technique was a weak point in the past. Because of differences in anthropometry (leg length, crural index), genetics, training history, etc. it's impossible to be able to give an actual number of what you can expect specifically.

3: What gym training gear should I use?

A: Gym gear is optional as there are no required pieces of equipment to gain muscle and increase strength. With that being said, investing in a 10mm prong or lever belt, knee sleeves, squat shoes, and straps can be beneficial in allowing you to lift more weight for certain exercises. When it comes to the squat a belt, knee sleeves, and squat shoes will increase performance. Personally, I get about a 15-20% strength bump from these pieces of equipment when combined.

You can find all of my recommended equipment at the following link: <http://Rise.ca/jeff>

4: I have a belt. When should I wear it?

A: When it comes to the squat, I very strongly recommend wearing a belt. A belt should be worn for all working sets and your last 1-2 warm-up sets. Since strength is a specific skill, you want to practice each and every rep in exactly the same way. Switching up when you do and don't wear a belt may be

counterproductive to developing consistent technique habits. Bracing against a belt should also be seen as a skill that you want to develop over time. Avoid wearing a belt for your first few light warm-up sets.

5: I am not getting sore from my workouts. Is the program not working?

A: Muscle soreness is largely attributed to eccentric contractions [1] and contractions at long muscle lengths [2]. Delayed onset muscle soreness (DOMS) isn't required for hypertrophy to occur, but the associated muscle damage might play a role in hypertrophy [3]. With that said, the main goal of this program is to build strength, not to get you feeling sore. In fact, reduced soreness over time indicates that your body is adapting and recovering, which is actually a good thing for continued progress. If we consider the mechanics of the squat, the quads aren't being stretched much at all, so it is unlikely that this program will make you incredibly sore.

6: I am getting very sore from my workouts. Should I skip the gym until I am not sore?

A: You may experience increased soreness when you first begin the program because it is presenting a new stress to your body. Foam rolling or using a lacrosse ball can help reduce DOMS [4] and increase ROM [5], so if you are consistently getting sore week after week, consider adding a short 3-5 minute foam rolling routine at the end of the workouts. Otherwise, training while sore is not inherently problematic for muscle growth unless it puts you at an increased risk of injury. If you're having a difficult time getting into position for any of the planned exercises, or finding it difficult to complete a full ROM due to pain, do not train. Otherwise, in the case of mild soreness, perform a slightly longer warm up for each exercise and use your own discretion with avoiding injury being a top priority. One extra rest day will not set you back very far, but a serious injury will.

7: Should I eat in a caloric deficit, maintenance, or surplus while running this program?

A: Eating in a slight caloric surplus will yield the best results and best recovery, however, if your main goal is fat loss, eating in a caloric deficit will be necessary. As a beginner, you can continue to make strength and size progress while in a moderate caloric deficit and achieve body recomposition (lose fat and build muscle at the same time) if protein intake is sufficient (0.8-1g/lb bodyweight as a ballpark). As an intermediate-advanced level trainee, the likelihood of achieving substantial body recomposition is smaller,

but still possible. So, in all, a caloric surplus is recommended for optimal progress, but some progress can still occur at caloric maintenance and even in a caloric deficit.

8: The warm-up isn't enough for me. Can I add to it?

A: You can add warm-up exercises to the protocol but your warm-up shouldn't take any longer than 10-20 minutes. It is important to stay injury-free, so don't rush into your workout. Take into consideration that you are looking to maximize strength, not "sensation". Your legs shouldn't feel fatigued (or even significantly pumped) prior to your working sets, and you shouldn't feel your heart racing before starting your working sets.

9. Why isn't there much exercise variation from week to week?

A: Changing exercises from week to week is more likely to flatten out the strength progression curve. This is to ensure both progression by adding volume incrementally to these specific movements and mastery of these movements in terms of form and technique. Keep in mind that the shift in goals between Blocks 1 and 2 will cut the monotony and create a novel training stimulus to finish the program strong. Excessive variation may also be counterproductive to the neural skill aspect of squat strength development.

10. Isn't this too much volume?

Please see "A disclaimer about volume" on page [61](#)

11. Isn't this too little volume?

Please see "A disclaimer about volume" on page [61](#)

12. What do I do after I finished the program?

A: It is generally ill-advised to run the same specialization program for the same lift too frequently. This may increase the risk of overuse and result in diminishing returns on your training. Instead of running the program through again, I would suggest running a different specialization program such as my [Bench Press Specialization Program](#) or doing a more "generalized" program with more focus on full body volume accumulation, such as my [Push Pull Legs Hypertrophy Program](#).

13. What are the blank boxes in the middle of each program for?

A: They are for you to track your weights each week, so you can focus on strength progression from week 1 to week 10 of each block. Of course, this will only work if you print the program out. The other option would be to keep a notebook and simply pencil in your lifts each week. Keeping up with this habit of tracking is going to be an extremely important part of your success on this program.

14. I can't do "X Exercise". What should I replace it with?

Please see "Exercise Substitutions" on page [48](#) for substitutions for all exercises other than the squat. Since this is a squat program, there will not be a substitute given for that exercise.

Please direct all questions to info@strcng.com. Please avoid directing questions about this program to my social media as it is not a reliable means of making contact with me or getting the correct information. Please allow 3-5 business days for a reply.



SQUAT ANATOMY

Figure 1A: The Primary Anterior Muscles Active in the Squat (Highlighted in Blue)

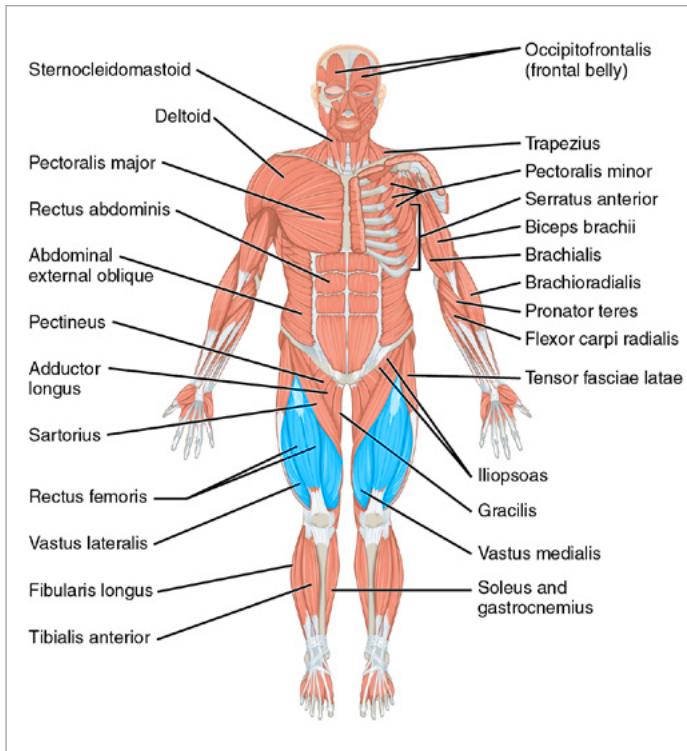


Figure 1B: The Stabilizing Anterior Muscles Active in the Squat (Highlighted in Green)

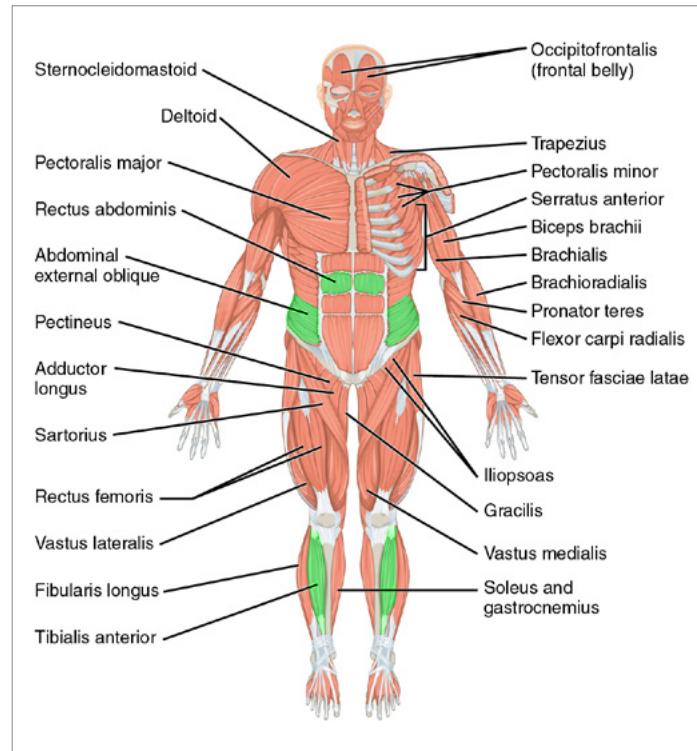


Figure 2A: The Main Posterior Muscles Active in the Squat
(Highlighted in Blue)

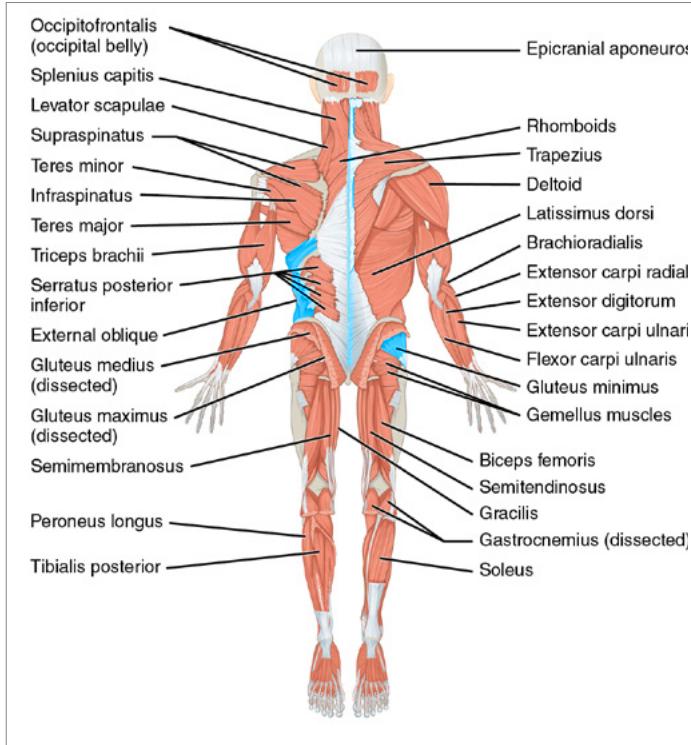
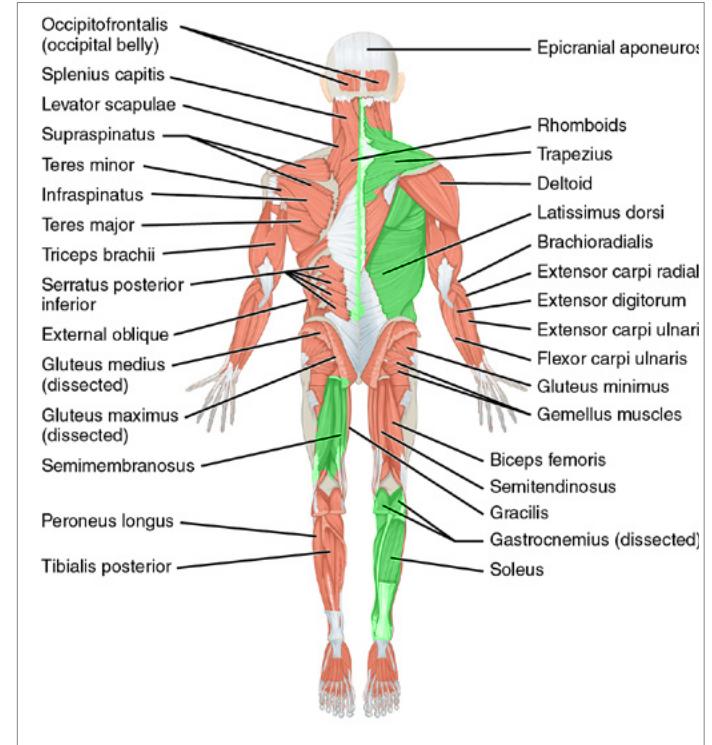


Figure 2B: The Stabilizing Posterior Muscles in the Squat
(Highlighted in Green)



SQUAT MECHANICS

The squat is referred to by many trainers as the “king” of lower body exercises and even the king of all exercises. I think the squat gets its reputation as the most superior exercise (the deadlift being the closest competitor) from its large range of motion and high potential for overload. Elite level natural athletes such as Ray Williams have claimed squat maxes of over 1000lbs in competition, attesting to its incredible capacity for overload.

While the squat is considered a lower body exercise, it can be seen as a full body movement as well, especially considering just how much a proper setup involves muscles of the back and core.

WHICH JOINT ACTIONS ARE BEING PERFORMED IN A SQUAT?

1. Knee extension: "straightening" your knee like in a leg extension
2. Hip extension: "straightening" your hips underneath your midsection
3. Hip external rotation: "opening" hips up and pushing your knees out

WHICH MUSCLE GROUPS PERFORM THESE JOINT ACTIONS?

1: THE QUADRICEPS

The quads' primary function is to extend the knee (taking the leg from a bent position to a straight position). It is important to note that since the rectus femoris (the most superior head of the quads) crosses both the knee joint and hip joint, it will not act as a primary mover, but rather a stabilizer in the squat.

2: THE ADDUCTORS

This will come as a surprise to many, but the adductors (specifically the adductor magnus) may be stronger contributors to hip extension in the squat than the glutes or hamstrings! [6]. As we will see, since the hamstrings cross both the knee and hip joint, they are unable to effectively extend the hip joint, however the glutes are highly involved.

3: THE GLUTEALS

The primary functions of the glutes are hip extension and external rotation. In general, the deeper the squat, the more glute activation. [7]

IMPORTANT STABILIZERS IN THE SQUAT INCLUDE:

- The hamstrings: As mentioned, because the hamstrings cross both the knee joint and hip joint, they are unable to contribute meaningfully to hip extension in the squat. As you perform a concentric rep, the hamstrings are lengthening at the knee while shortening at the hip, meaning that their length remains near constant throughout the range of motion.

- The erector spinae: The spinal erectors will stabilize the torso and prevent spinal flexion (lower back rounding). This fact highlights the idea that the squat is not an effective abdominal exercise. If the abs were to actively contract during the squat, they would compete with the erector spinae, pulling you into a more flexed (and more dangerous) spinal position. Granted, co-contraction of the rectus abdominis will occur during the squat, similar to how the biceps co-contract in a skullcrusher exercise. But saying that the squat is a good exercise for the 6 pack would be like saying the skullcrusher is a good exercise for the biceps.
- Muscles of the scapula: the muscles surrounding the scapulae (trapezius, rhomboids, rear deltoids) prevent anterior tilting and scapular protraction, which can be seen when your upper back collapses forward causing your chest to “cave in”.
- The calves and anterior tibialis: the musculature of the lower leg will provide stability as your ankle goes through a plantarflexion range of motion.



SQUAT TECHNIQUE

Now that we understand the anatomy and biomechanics responsible for performing the squat, we can cover exactly how to perform the squat properly. Please refer to my [squat technique video](#) for a visual description of the movement. (UPDATE)

We're going to split the squat up into two separate stages: the set up and the execution.

THE SET UP

First, it is important to note that what follows is just one way to set up the squat and will only cover high bar squat mechanics.

1. Set the bar up on the rack so that when you stand up, the bar completely clears the hooks. The bar should be positioned around armpit height on the rack.

2. Always begin with a pre-lift check: ensure the bar is perfectly centered, the weights are properly loaded and evenly balanced on both sides and you have a spotter present if you are training with heavy loads or high efforts.

THE EXECUTION

Now that the squat has been set up, it's time to actually execute the set. We're going to break down the squat execution into 4 phases:

1. Unrack
2. Brace
3. Descend (eccentric/negative)
4. Lift (concentric/positive)

UNRACK

1. First, set-up for the unrack.
 - a. Grab the bar evenly. If your bar has a ring on the outer knurling, use that as a reference point. Typically, for a high bar squat, the closer the grip is to your shoulders, the more stable the bar will be.
 - b. Stand with your feet directly underneath the bar (or slightly in front of it) with a shoulder width stance.
 - c. While retracting your shoulder blades, place the bar on your upper traps to rear delt area. If you push up on the bar, the bar shouldn't slide or shift around at all.
 - d. Take in a breath and brace your core (Valsalva maneuver). If you are wearing a belt, think about pushing your midsection out against the entire surface area of belt, not just the medial part of your stomach.

2. Unrack the bar and walk it out.
 - a. While holding your breath, push your hips forward to stand fully upright.
 - b. Take one medium length stride back with your left foot, then one small stride with your right foot ~2" behind your left foot. Lastly, take another small step with your left foot to align your heels. Your feet should be planted with about 15-30 degrees of foot flare.
 - c. Squeeze your glutes to externally rotate your hips. You can think of this as "screwing" your feet into the floor. If done properly, you will notice that your knees aren't pointing forward, but forward and slightly out.

BRACE

3. Now that you've walked the bar out, brace before starting the eccentric.
 - a. Take another breath in, focusing on pushing your midsection out to cover the entire surface area of the belt (if you are wearing one).
 - b. Brace your upper back against the bar by driving your upper back into the bar.
 - c. Additionally, you can think about pulling the bar apart with your hands to enforce scapular retraction.
 - d. Brace your feet into the ground by making even contact with your heels, big toe, and pinky toe. You can visualize this by thinking about pushing through the middle of your foot.

DESCEND

4. Now that our body is as rigid as possible when can begin the eccentric phase.
 - a. Start by pushing your knees both forward and out while simultaneously sitting your hips straight down.
 - b. Maintain constant pressure between your heels, big toe, and pinky toe against the floor.
 - c. Keep your head slightly extended throughout the entire range of motion. You can think of this as gazing your eyes slightly up. This will help with keeping your upper back tight. [8]

- d. Throughout the eccentric, your knees should be tracking in line with your femur and ankle. If you draw a straight line down, your joints will be stacked.
- e. The bar path should be as vertical as possible.
- f. When it comes to squat depth, I recommend at least parallel to the ground as a minimum standard for hypertrophy and general strength, however, for regulation technique, you need to get the hip crease below the knee, meaning you will have to go below parallel before beginning the concentric (squat) phase.
- g. The eccentric should not be excessively slowed down. It should only last about 1 second and the motion should be reversed as soon as you reach the appropriate depth.

SQUAT

- 5. The concentric or "squatting" phase is the reverse of the eccentric phase.
 - a. Drive your knees out in the same direction as your toes.
 - b. Maintain constant pressure through your heels, big toe, and pinky toe.
 - c. Forcefully explode on the concentric: think about jumping when you are at the very bottom. Of course, you don't want to actually have your feet leave the floor, and you don't want to press up onto your toes.
 - d. You will "ride out" the stretch reflex, meaning you should not pause in the bottom of the squat, but you also do not want to bounce off of your ankles or calves uncontrollably.
 - e. Once you break past the sticking point or about half way up, you can exhale.
 - f. Begin your next rep by re-bracing and repeating the eccentric phase for the number of reps the program calls for.

WHERE IS THE STICKING POINT IN THE SQUAT?

The sticking point in the squat usually occurs in the bottom 20% of the ROM for everyone, regardless of training experience and strength ability. Most people can get about 15-20% of the way up, at which point the momentum from the stretch reflex dissipates bringing further upward movement to a halt.

HOW DO YOU BREAK THROUGH THE STICKING POINT?

The question "how do you breaking through the sticking point in the squat?" is nearly synonymous with "how do you hit a PR when you squat"? For most people in most situations, simply building bigger and stronger quads, adductors and glutes is the answer. With that said, there are a few specific techniques and drills that can be uniquely helpful for busting through the sticking point and setting new PRs:

i. PAUSE SQUATS

Pause squats are included in the program to enforce explosive power out of the bottom of the squat. The pause at the bottom will eliminate the stretch reflex, forcing you to rely more on pure concentric strength to get the bar moving from a dead stop. The pause squat is NOT simply resting at the bottom of the squat, instead you are actively holding tension throughout your entire body to reinforce rigidity.

ii. SPEED SQUATS

Speed squats are included for a similar reason: to develop explosive power out of the hole, without accumulating excessive muscular fatigue from very heavy loads.

iii. CHECK FOR FORM DEVIATIONS

The most efficient bar path is nearly perfectly vertical, with the bar centered over the middle of the foot when viewed from the side. If you notice any spinal flexion (lumbar or thoracic rounding) when squatting, your bar path may be less vertical than ideal, leading to suboptimal performance. We will cover this in more detail in the Common Technique Errors section.



COMMON TECHNIQUE ERRORS

In this section, we will cover the most common squat mistakes in chronological order as they would be likely to happen during a set.

SET UP ERRORS

1. NO UPPER BACK TIGHTNESS

Upper back tightness is critical for a safe and effective squat. If you notice your hips shooting up early, this may stem from inadequate upper body tightness. If the scapulae protract and anteriorly tilt (due to lack of upper back tightness), the hips can shoot up to compensate, often resulting in lower back rounding as well. This is not an ideal body position from a strength or safety perspective.

To maintain upper back tightness throughout the lift, keep your grip close to the shoulders blades during the set up and think about driving your back up into the bar (as you would in an "isometric good morning hold").

2. INAPPROPRIATE FOOT POSITION

Although foot position will be highly dependent on your specific anthropometry and mobility, you should aim to utilize the same foot position on every single rep. Some of the most common foot positioning errors are:

TOO NARROW OF A STANCE

Planting the feet too close together makes it nearly impossible to hit depth without form deviation. In nearly every case, your knees will either travel extremely far in front of your knees (which isn't necessarily problematic, but most people simply don't have the ankle mobility to actually do so), or you will have to squat with significant amounts of knee varus (when your knees are being pushed laterally outside your feet) which may be just as or more dangerous than knee valgus (caving).

TOO WIDE OF A STANCE

Having too wide of a stance is more common for people with longer legs. Most often, taking a very wide sumo stance will make it more difficult to reach full depth due to inadequate hip mobility (especially with the high bar squat). If you can comfortably reach depth with a wide stance, however, there is nothing inherently problematic with it.

FOOT PRONATION (“LOSING YOUR ARCH”)

Foot pronation will almost always manifest itself as knee valgus in the squat. This is why the cue of maintaining even pressure through your heel, big toe, and pinky toe is so important: if you lose contact with your pinky toe, your foot is pronating. Wearing a squat shoe with a sturdy, elevated heel will automatically fix this issue in most cases.

LACK OF ANKLE DORSIFLEXION MOBILITY

This is not necessarily a “form error” per se, but rather a mobility deficit that can lead to various technical problems. If you lack the mobility to keep your heels planted in the bottom of the squat, a foam rolling and dynamic warm-up routine focused on the calves and hamstrings before squatting will increase ROM acutely. Investing in squat shoes with an elevated heel can serve as a simple and effective “quick fix”, as will elevating your heels onto an ~1” plate.

EXECUTION ERRORS

KEEP IN MIND THE ORDER OF EACH PHASE AS WE GO THROUGH THE MOST COMMON ERRORS:

1: Unrack

2: Brace

3: Descend

4: Press

1. UNRACKING ERRORS:

The most common unracking error is setting up the hooks either too high or too low. You should not have to go onto your tippy toes to get the bar off the hooks when you unrack. By the same token, you want to minimize the distance you have to “squat the bar up” off the rack so you don’t waste energy before the actual lifting begins.

2. BRACING ERRORS:

When handling lighter loads, you still want to be consistent with the walk out and bracing phase. Rushing into the set before properly setting up your feet and hips can lead to an asymmetrical, uncoordinated squat for heavier working sets.

When bracing, avoid “flexing your abs down” which will pull your spine into flexion, creating unnecessary shearing force and putting you into a weaker lifting position.

The bar shouldn’t be simply resting on your back loosely. If you feel the bar digging into your spine, you probably aren’t bracing your upper back properly. Pull your grip in as close as you comfortably can and ensure that the bar is locked into position through scapular retraction.

3. DESCENDING ERRORS (ECCENTRIC)

The most common error in the descending phase is not externally rotating and abducting at the hip. To correct this, you can think about pushing your knees out in the same direction as your toes.

Inconsistent depth is another issue many trainees experience. Whether going for a new 1RM or a light

warm-up set, you should be squatting as deep as you comfortably can. As the load gets heavier, do not shorten your range of motion just so you can lift more weight. Remember that adding more weight to the bar only counts as true progressive overload if form and range of motion are constant.

Although it is smart to use the stretch reflex for a slight “bounce” at the end of the eccentric, you should be in complete control at the bottom of the movement. Excessive bouncing between the concentric and eccentric can lead to knee pain and cause inconsistencies in technique. While there is no simple way of quantifying exactly how much bouncing is “too much”, if you really struggle with paused squats, that may be an indication that you are bouncing too hard on normal squats.

4. SQUATTING ERRORS (CONCENTRIC)

Concentric errors on the squat usually stem from improper bracing and/or descending. If you execute the bracing and descending phases properly, the concentric should come quite naturally as you stand back up.

While it is extremely common to hear the cue to “push through your heels” (and it may have more utility with the low bar squat) with the high bar squat, you should actually be pushing through the midfoot, since pushing through the heels will shift your center of gravity back too far. This often results in the hips rising prematurely and the lumbar spine going into flexion (rounding). While minor spinal flexion (buttwink) may not be inherently problematic or injurious, the inefficient bar path will decrease strength potential and quad activation. [9]



WARM-UP

Before we look at exactly how you should warm-up, it's important to first consider what warming up is meant to accomplish. The main purpose behind warming up is to increase core body temperature, improve performance and reduce risk of injury [10] [11]. Because your circadian rhythm largely determines your core body temperature, when you wake up, it is at its lowest and increases throughout the day. There seems to be a "sweet spot" for core body temperature in terms of safety and performance, so try not to train too hot or too cold. Generally speaking, breaking a light sweat through some form of cardio activity/machine is a good idea before jumping into any heavy lifting. Doing at least 5-10 minutes of low-moderate intensity cardio is especially prudent if you train early in the morning [12].

Warm-ups may also serve as a way to increase muscle activation. Dynamic warm-up drills (active stretches that take joints through a range of motion) can improve performance and increase force output [13]. Don't simply "go through the motions." The goal is to always be very mindful about what muscles are contracting and what movement that contraction is creating.

Lastly, foam rolling has been shown to reduce DOMS (delayed onset muscle soreness) [4] and brief foam rolling with a specific focus on "tight areas" before a session can both improve range of motion [14] and prevent injury [15]. Light foam rolling for 2-3 minutes prior to lifting is recommended.

The goal of the warm-up is not to get a pump in your quads before your working sets and warm-up sets

should not exceed an RPE of 5. Since the squat is such a technical lift, warm-up sets should be seen as a sort of pre-training drill for mastering technique and using post-activation potentiation [16] which can be thought of as “priming” your body to perform movements more effectively.

Before the first exercise for each bodypart, perform a basic loading pyramid:

- Pyramid up in weight with 2-4 light sets, getting progressively heavier
- Such a warm up is only required for Primary Exercises
- For example, if you were working up to 4 sets of 335 lbs for 5 reps on the squat, you could warm up as follows:
 - Bar (45 lbs) x 15 reps
 - 135 lbs x 5 reps
 - 185 lbs x 4 reps
 - 225 lbs x 3 reps
 - 275 lbs x 1 reps
 - Then begin working sets with 335lbs for 5 reps
- On a %1RM basis, warm up pyramids can be structured like this:
 - Bar (45 lbs) x 15 reps
 - 40% lbs x 5 reps
 - 50% lbs x 4 reps
 - 60% lbs x 3 reps
 - 70-75% lbs x 2 reps
 - Begin working sets
- Note: Remember that such an extensive warm up is only required for Primary Exercises

SQUAT PROGRAM

WEEK
1

SQUAT PROGRAM**BLOCK 1: VOLUME ACCUMULATION PHASE / WEEK 1: DAYS 1-4**

LOWER BODY #1	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	4	2	85%	3-5MIN						SIT DOWN, KEEP YOUR HIPS OPEN	
SEATED GOOD MORNING	3	8	RPE7	2-3MIN						KEEP YOUR LUMBAR AND THORACIC SPINE NEUTRAL	
SNATCH GRIP DEADLIFT	2	10	RPE7	1-2MIN						KEEP YOUR LUMBAR SPINE NEUTRAL	
LYING LEG CURL	2	12	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
LEG EXTENSION	2	15	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR QUADS TO MOVE THE WEIGHT	
AB WHEEL ROLLOUT	3	8	RPE7	1-2MIN						KEEP YOUR GLUTES LOCKED OUT THROUGHOUT THE ROM	

TOTAL SET VOLUME: 16

LOWER BODY #2	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
PAUSE SQUAT	3	6	70%	3-5MIN						FULL 2-SECOND PAUSE. EXPLODE DURING THE CONCENTRIC	
BARBELL HIP THRUST	2	10	RPE8	2-3MIN						KEEP YOUR RIB CAGE AND CHIN TUCKED DOWN. USE A PAD	
BULGARIAN SPLIT SQUAT	2	12	RPE8	2-3MIN						ELEVATE YOUR REAR FOOT	
SEATED HIP ABDUCTION MACHINE	2	15	RPE9	1-2MIN						FOCUS ON USING A FULL ROM	
STANDING CALF RAISE	3	8	RPE7	1-2MIN						PRESS ALL THE WAY ONTO YOUR TOES, DON'T BOUNCE	

TOTAL SET VOLUME: 12

LOWER BODY #3	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	3	5	75%	3-5MIN						SIT DOWN, KEEP YOUR HIPS OPEN	
REVERSE HYPEREXTENSION	3	12	RPE8	2-3MIN						FOCUS ON SQUEEZING YOUR GLUTES TO MOVE YOUR LEGS	
KNEE-BANDED BARBELL BOX SQUAT	2	6	RPE7	2-3MIN						SET BOX TO PARALLEL. SIT BACK, KEEP YOUR KNEES OUT	
SEATED LEG CURL	3	12	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
HANGING LEG RAISE	3	12	RPE8	1-2MIN						FOCUS ON FLEXING YOUR LUMBAR SPINE	

TOTAL SET VOLUME: 14

LOWER BODY #4	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
FRONT SQUAT	4	6	RPE7	3-4MIN						Maintain a hyperextended thoracic and lumbar spine	
BARBELL HIP THRUST	3	10	RPE8	2-3MIN						Keep your rib cage and chin tucked down. Use a pad	
LEG PRESS	3	15	RPE6	2-3MIN						Don't allow your lumbar spine to round	
SEATED HIP ABDUCTION MACHINE	3	15	RPE9	1-2MIN						Focus on using a full rom	
STANDING CALF RAISE	3	8	RPE7	1-2MIN						Press all the way onto your toes, don't bounce	

TOTAL SET VOLUME: 16

SQUAT PROGRAM

WEEK
2

SQUAT PROGRAM**BLOCK 1: VOLUME ACCUMULATION PHASE / WEEK 2: DAYS 1-4**

LOWER BODY #1	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	4	2	87.5%	3-5MIN						SIT DOWN, KEEP YOUR HIPS OPEN	
SEATED GOOD MORNING	3	8	RPE7	2-3MIN						KEEP YOUR LUMBAR AND THORACIC SPINE NEUTRAL	
SNATCH GRIP DEADLIFT	3	10	RPE7	1-2MIN						KEEP YOUR LUMBAR SPINE NEUTRAL	
LYING LEG CURL	3	12	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
LEG EXTENSION	3	15	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR QUADS TO MOVE THE WEIGHT	
AB WHEEL ROLLOUT	3	8	RPE7	1-2MIN						KEEP YOUR GLUTES LOCKED OUT THROUGHOUT THE ROM	

TOTAL SET VOLUME: 16

LOWER BODY #2	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
PAUSE SQUAT	5	3	80%	3-5MIN						FULL 2-SECOND PAUSE. EXPLODE DURING THE CONCENTRIC	
BARBELL HIP THRUST	3	10	RPE8	2-3MIN						KEEP YOUR RIB CAGE AND CHIN TUCKED DOWN. USE A PAD	
BULGARIAN SPLIT SQUAT	3	12	RPE8	2-3MIN						ELEVATE YOUR REAR FOOT	
SEATED HIP ABDUCTION MACHINE	3	15	RPE9	1-2MIN						FOCUS ON USING A FULL ROM	
STANDING CALF RAISE	3	8	RPE7	1-2MIN						PRESS ALL THE WAY ONTO YOUR TOES, DON'T BOUNCE	

TOTAL SET VOLUME: 12

LOWER BODY #3	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	3	5	77.5%	3-5MIN						SIT DOWN, KEEP YOUR HIPS OPEN	
REVERSE HYPEREXTENSION	3	12	RPE8	2-3MIN						FOCUS ON SQUEEZING YOUR GLUTES TO MOVE YOUR LEGS	
KNEE-BANDED BARBELL BOX SQUAT	2	6	RPE7	2-3MIN						SET BOX TO PARALLEL. SIT BACK, KEEP YOUR KNEES OUT	
SEATED LEG CURL	3	12	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
HANGING LEG RAISE	3	12	RPE8	1-2MIN						FOCUS ON FLEXING YOUR LUMBAR SPINE	

TOTAL SET VOLUME: 14

LOWER BODY #4	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
FRONT SQUAT	4	6	RPE7	3-4MIN						Maintain a hyperextended thoracic and lumbar spine	
BARBELL HIP THRUST	3	10	RPE8	2-3MIN						Keep your rib cage and chin tucked down. Use a pad	
BULGARIAN SPLIT SQUAT	3	12	RPE8	2-3MIN						Don't allow your lumbar spine to round	
SEATED HIP ABDUCTION MACHINE	3	15	RPE9	1-2MIN						Focus on using a full rom	
STANDING CALF RAISE	3	8	RPE7	1-2MIN						Press all the way onto your toes, don't bounce	

TOTAL SET VOLUME: 16

SQUAT PROGRAM

WEEK
3

SQUAT PROGRAM**BLOCK 1: VOLUME ACCUMULATION PHASE / WEEK 3: DAYS 1-4**

LOWER BODY #1	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	4	2	90.0%	3-5MIN						SIT DOWN, KEEP YOUR HIPS OPEN	
SEATED GOOD MORNING	3	8	RPE7	2-3MIN						KEEP YOUR LUMBAR AND THORACIC SPINE NEUTRAL	
SNATCH GRIP DEADLIFT	2	10	RPE7	1-2MIN						KEEP YOUR LUMBAR SPINE NEUTRAL	
LYING LEG CURL	2	12	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
LEG EXTENSION	2	15	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR QUADS TO MOVE THE WEIGHT	
AB WHEEL ROLLOUT	3	8	RPE7	1-2MIN						KEEP YOUR GLUTES LOCKED OUT THROUGHOUT THE ROM	

TOTAL SET VOLUME: 16

LOWER BODY #2	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
PAUSE SQUAT	3	6	72.5%	3-5MIN						FULL 2-SECOND PAUSE. EXPLODE DURING THE CONCENTRIC	
BARBELL HIP THRUST	2	10	RPE8	2-3MIN						KEEP YOUR RIB CAGE AND CHIN TUCKED DOWN. USE A PAD	
BULGARIAN SPLIT SQUAT	2	12	RPE8	2-3MIN						ELEVATE YOUR REAR FOOT	
SEATED HIP ABDUCTION MACHINE	2	15	RPE9	1-2MIN						FOCUS ON USING A FULL ROM	
STANDING CALF RAISE	3	8	RPE7	1-2MIN						PRESS ALL THE WAY ONTO YOUR TOES, DON'T BOUNCE	

TOTAL SET VOLUME: 12

LOWER BODY #3	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	3	5	80%	3-5MIN						SIT DOWN, KEEP YOUR HIPS OPEN	
REVERSE HYPEREXTENSION	3	12	RPE8	2-3MIN						FOCUS ON SQUEEZING YOUR GLUTES TO MOVE YOUR LEGS	
KNEE-BANDED BARBELL BOX SQUAT	2	6	RPE7	2-3MIN						SET BOX TO PARALLEL. SIT BACK, KEEP YOUR KNEES OUT	
SEATED LEG CURL	3	12	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
HANGING LEG RAISE	3	12	RPE8	1-2MIN						FOCUS ON FLEXING YOUR LUMBAR SPINE	

TOTAL SET VOLUME: 14

LOWER BODY #4	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
FRONT SQUAT	4	6	RPE7	3-4MIN						Maintain a hyperextended thoracic and lumbar spine	
BARBELL HIP THRUST	3	10	RPE8	2-3MIN						Keep your rib cage and chin tucked down. Use a pad	
BULGARIAN SPLIT SQUAT	3	15	RPE8	2-3MIN						Don't allow your lumbar spine to round	
SEATED HIP ABDUCTION MACHINE	3	15	RPE9	1-2MIN						Focus on using a full rom	
STANDING CALF RAISE	3	8	RPE7	1-2MIN						Press all the way onto your toes, don't bounce	

TOTAL SET VOLUME: 16

SQUAT PROGRAM

WEEK
4

SQUAT PROGRAM**BLOCK 1: VOLUME ACCUMULATION PHASE / WEEK 4: DAYS 1-4**

LOWER BODY #1	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	1	2	95%	3-5MIN						SIT DOWN, KEEP YOUR HIPS OPEN	
BACK SQUAT	3	2	75%	3-5MIN						SIT DOWN, KEEP YOUR HIPS OPEN	
SNATCH GRIP DEADLIFT	2	10	RPE7	2-3MIN						KEEP YOUR LUMBAR SPINE NEUTRAL	
LYING LEG CURL	2	12	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
LEG EXTENSION	2	15	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR QUADS TO MOVE THE WEIGHT	
AB WHEEL ROLLOUT	2	8	RPE7	1-2MIN						KEEP YOUR GLUTES LOCKED OUT THROUGHOUT THE ROM	

TOTAL SET VOLUME: 16

LOWER BODY #2	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
PAUSE SQUAT	3	6	75%	3-5MIN						FULL 2-SECOND PAUSE. EXPLODE DURING THE CONCENTRIC	
BARBELL HIP THRUST	3	10	RPE8	2-3MIN						KEEP YOUR RIB CAGE AND CHIN TUCKED DOWN. USE A PAD	
BULGARIAN SPLIT SQUAT	3	12	RPE8	2-3MIN						ELEVATE YOUR REAR FOOT	
SEATED HIP ABDUCTION MACHINE	3	15	RPE9	1-2MIN						FOCUS ON USING A FULL ROM	
STANDING CALF RAISE	3	8	RPE7	1-2MIN						PRESS ALL THE WAY ONTO YOUR TOES, DON'T BOUNCE	

TOTAL SET VOLUME: 12

LOWER BODY #3	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	3	5	80%	3-5MIN						SIT DOWN, KEEP YOUR HIPS OPEN	
REVERSE HYPEREXTENSION	3	12	RPE8	2-3MIN						FOCUS ON SQUEEZING YOUR GLUTES TO MOVE YOUR LEGS	
KNEE-BANDED BARBELL BOX SQUAT	2	6	RPE7	2-3MIN						SET BOX TO PARALLEL. SIT BACK, KEEP YOUR KNEES OUT	
SEATED LEG CURL	3	12	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
HANGING LEG RAISE	3	12	RPE8	1-2MIN						FOCUS ON FLEXING YOUR LUMBAR SPINE	

TOTAL SET VOLUME: 14

LOWER BODY #4	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
FRONT SQUAT	4	6	RPE7	3-4MIN						Maintain a hyperextended thoracic and lumbar spine	
BARBELL HIP THRUST	3	10	RPE8	2-3MIN						Keep your rib cage and chin tucked down. Use a pad	
BULGARIAN SPLIT SQUAT	3	12	RPE8	2-3MIN						Don't allow your lumbar spine to round	
SEATED HIP ABDUCTION MACHINE	3	15	RPE9	1-2MIN						Focus on using a full rom	
STANDING CALF RAISE	3	8	RPE7	1-2MIN						Press all the way onto your toes, don't bounce	

TOTAL SET VOLUME: 16

SQUAT PROGRAM

WEEK
5

LOWER BODY #1	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	3	5	70%	3-5MIN						SIT DOWN, KEEP YOUR HIPS OPEN	
TOUCH-AND-GO DEADLIFT	2	8	60%	2-3min						FOCUS ON KEEPING YOUR LUMBAR SPINE NEUTRAL	
LYING LEG CURL	2	12	RPE6	1-2min						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
SINGLE-LEG LEG PRESS	2	10	RPE6	1-2min						DON'T ALLOW YOUR LUMBAR SPINE TO ROUND	
AB WHEEL ROLLOUT	2	5	RPE6	1-2min						KEEP YOUR GLUTES LOCKED OUT THROUGHOUT THE ROM	

TOTAL SET VOLUME: 11

LOWER BODY #2	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
PAUSE SQUAT	3	6	75%	3-5MIN						FULL 2-SECOND PAUSE. EXPLODE DURING THE CONCENTRIC	
BARBELL HIP THRUST	3	10	RPE8	2-3MIN						KEEP YOUR RIB CAGE AND CHIN TUCKED DOWN. USE A PAD	
BULGARIAN SPLIT SQUAT	3	12	RPE8	2-3MIN						ELEVATE YOUR REAR FOOT	
SEATED HIP ABDUCTION MACHINE	3	15	RPE9	1-2MIN						FOCUS ON USING A FULL ROM	
STANDING CALF RAISE	3	8	RPE7	1-2MIN						PRESS ALL THE WAY ONTO YOUR TOES, DON'T BOUNCE	

TOTAL SET VOLUME: 16

SQUAT PROGRAM

WEEK
6

LOWER BODY #1	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	1	AMRAP	85%	N/A						SIT DOWN, KEEP YOUR HIPS OPEN	
FRONT SQUAT	2	10	RPE6	2-3MIN						MAINTAIN A HYPEREXTENDED THORACIC AND LUMBAR SPINE	
TOUCH-AND-GO DEADLIFT	2	8	65%	2-3MIN						FOCUS ON KEEPING YOUR LUMBAR SPINE NEUTRAL	
LYING LEG CURL	3	12	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
SINGLE-LEG LEG PRESS	3	10	RPE8	1-2MIN						START WITH YOUR WEAKER LEG	
AB WHEEL ROLLOUT	3	8	RPE8	1-2MIN						KEEP YOUR GLUTES LOCKED OUT THROUGHOUT THE ROM	

TOTAL SET VOLUME: 14

LOWER BODY #2	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	5	3	80%	3-5MIN						SIT DOWN, KEEP YOUR HIPS OPEN	
REVERSE HYPEREXTENSION	3	12	RPE7	2-3MIN						FOCUS ON SQUEEZING YOUR GLUTES TO MOVE YOUR LEGS	
BARBELL HIP THRUST	3	10	RPE8	1-2MIN						KEEP YOUR RIB CAGE AND CHIN TUCKED DOWN. USE A PAD	
SEATED LEG CURL	3	15	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
PLANK	3	30SEC	RPE8	1-2MIN						SQUEEZE YOUR GLUTES THE ENTIRE DURATION	

TOTAL SET VOLUME: 16

SQUAT PROGRAM

WEEK
7

LOWER BODY #1	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	2	5	85%	N/A						SIT DOWN, KEEP YOUR HIPS OPEN	
FRONT SQUAT	2	10	RPE6	2-3MIN						MAINTAIN A HYPEREXTENDED THORACIC AND LUMBAR SPINE	
TOUCH-AND-GO DEADLIFT	2	8	65%	2-3MIN						FOCUS ON KEEPING YOUR LUMBAR SPINE NEUTRAL	
LYING LEG CURL	3	12	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
SINGLE-LEG LEG PRESS	3	10	RPE8	1-2MIN						START WITH YOUR WEAKER LEG	
AB WHEEL ROLLOUT	3	8	RPE8	1-2MIN						KEEP YOUR GLUTES LOCKED OUT THROUGHOUT THE ROM	

TOTAL SET VOLUME: 15

LOWER BODY #2	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	5	3	80%	3-5MIN						SIT DOWN, KEEP YOUR HIPS OPEN	
REVERSE HYPEREXTENSION	3	12	RPE7	2-3MIN						FOCUS ON SQUEEZING YOUR GLUTES TO MOVE YOUR LEGS	
BARBELL HIP THRUST	3	10	RPE8	1-2MIN						KEEP YOUR RIB CAGE AND CHIN TUCKED DOWN. USE A PAD	
SEATED LEG CURL	3	15	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
PLANK	3	30SEC	RPE8	1-2MIN						SQUEEZE YOUR GLUTES THE ENTIRE DURATION	

TOTAL SET VOLUME: 17

SQUAT PROGRAM

WEEK
8

LOWER BODY #1	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	1	AMRAP	92.5%	N/A						SIT DOWN, KEEP YOUR HIPS OPEN	
FRONT SQUAT	2	10	RPE6	2-3MIN						MAINTAIN A HYPEREXTENDED THORACIC AND LUMBAR SPINE	
TOUCH-AND-GO DEADLIFT	2	8	65%	2-3MIN						FOCUS ON KEEPING YOUR LUMBAR SPINE NEUTRAL	
LYING LEG CURL	3	12	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
SINGLE-LEG LEG PRESS	3	10	RPE8	1-2MIN						START WITH YOUR WEAKER LEG	
AB WHEEL ROLLOUT	3	8	RPE8	1-2MIN						KEEP YOUR GLUTES LOCKED OUT THROUGHOUT THE ROM	

TOTAL SET VOLUME: 15

LOWER BODY #2	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	5	3	80%	3-5MIN						SIT DOWN, KEEP YOUR HIPS OPEN	
REVERSE HYPEREXTENSION	3	12	RPE7	2-3MIN						FOCUS ON SQUEEZING YOUR GLUTES TO MOVE YOUR LEGS	
BARBELL HIP THRUST	3	10	RPE8	1-2MIN						KEEP YOUR RIB CAGE AND CHIN TUCKED DOWN. USE A PAD	
SEATED LEG CURL	3	15	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
PLANK	3	30SEC	RPE8	1-2MIN						SQUEEZE YOUR GLUTES THE ENTIRE DURATION	

TOTAL SET VOLUME: 17

SQUAT PROGRAM

WEEK
9

LOWER BODY #1	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	2	3	90%	N/A						SIT DOWN, KEEP YOUR HIPS OPEN	
FRONT SQUAT	2	10	RPE6	2-3MIN						MAINTAIN A HYPEREXTENDED THORACIC AND LUMBAR SPINE	
TOUCH-AND-GO DEADLIFT	2	8	65%	2-3MIN						FOCUS ON KEEPING YOUR LUMBAR SPINE NEUTRAL	
LYING LEG CURL	3	12	RPE8	1-2MIN						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
SINGLE-LEG LEG PRESS	3	10	RPE8	1-2MIN						START WITH YOUR WEAKER LEG	
AB WHEEL ROLLOUT	3	8	RPE8	1-2MIN						KEEP YOUR GLUTES LOCKED OUT THROUGHOUT THE ROM	

TOTAL SET VOLUME: 15

LOWER BODY #2	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	5	3	80%	3-5MIN						SIT DOWN, KEEP YOUR HIPS OPEN	
REVERSE HYPEREXTENSION	3	12	RPE7	2-3min						FOCUS ON SQUEEZING YOUR GLUTES TO MOVE YOUR LEGS	
BARBELL HIP THRUST	3	10	RPE8	1-2min						KEEP YOUR RIB CAGE AND CHIN TUCKED DOWN. USE A PAD	
SEATED LEG CURL	3	15	RPE8	1-2min						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	
PLANK	3	30sec	RPE8	1-2min						SQUEEZE YOUR GLUTES THE ENTIRE DURATION	

TOTAL SET VOLUME: 17

SQUAT PROGRAM

WEEK
10

DAY 1

FULL BODY DELOAD	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	3	5	70%	5MIN						SIT DOWN, KEEP YOUR HIPS OPEN	

TOTAL SET VOLUME: 3

DAY 2

REST	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
N/A	N/A	N/A	N/A	N/A						NO PHYSICAL ACTIVITY	

TOTAL SET VOLUME: 0

DAY 3

FULL BODY DELOAD	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	2	3	80%	5MIN						SIT DOWN, KEEP YOUR HIPS OPEN	

TOTAL SET VOLUME: 2

DAY 4

REST	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
N/A	N/A	N/A	N/A	N/A						NO PHYSICAL ACTIVITY	

TOTAL SET VOLUME: 0

DAY 5

TESTING DAY	SETS	REPS	RPE/%1RM	REST	1	2	3	4	5	NOTES	LSRPE
BACK SQUAT	1	NOTES	NOTES	5MIN						WORK UP TO A NEW 1RM (ONLY IF YOU HAVE SPOTTERS/SAFETY BARS), OR DO AN AMRAP WITH 95%	
REVERSE HYPEREXTENSION	3	10	RPE8	1-2min						FOCUS ON SQUEEZING YOUR GLUTES TO MOVE YOUR LEGS	
LYING LEG CURL	3	12	RPE8	1-2min						FOCUS ON SQUEEZING YOUR HAMSTRINGS TO MOVE THE WEIGHT	

TOTAL SET VOLUME: 7



EXERCISE SUBSTITUTIONS

BACK SQUAT: N/A

SEATED GOOD MORNING: Good morning, pin good morning, back extension

SNATCH GRIP DEADLIFT: RDL, stiff leg deadlift

LYING LEG CURL: Seated leg curl

LEG EXTENSION: Goblet squat

AB WHEEL ROLLOUT: Plank, hollow body hold

PAUSE SQUAT: N/A

BARBELL HIP THRUST: Glute bridge, 45° hyperextension

BULGARIAN SPLIT SQUAT: Walking lunge

SEATED HIP ABDUCTION MACHINE: Lateral band walk, cable standing hip abduction

STANDING CALF RAISE: Leg press calf raise, seated calf raise

BARBELL BENCH PRESS: Barbell incline press, DB bench press, dumbbell incline press

Pull-up: chin-up, pulldown

BARBELL SEATED SHOULDER PRESS: Standing overhead press, machine shoulder press, seated DB shoulder press

MACHINE CHEST-SUPPORTED ROW: Helms row, seal row, cable seated row

ASSISTED DIP: Close-grip bench press, DB floor press

CABLE REVERSE FLY: Seated face pull, prone trap raise, reverse pec deck

PREACHER CURL: EZ bar curl, DB alternating curl

EZ BAR SKULL CRUSHER: DB skull crusher, rope overhead triceps extension

REVERSE HYPEREXTENSION: Cable glute kickback, donkey kickback

KNEE-BANDED BARBELL BOX SQUAT: Goblet squat, knee-banded goblet squat

SEATED LEG CURL: Lying leg curl

HANGING LEG RAISE: V sit-up, bicycle crunch

LEG PRESS: Hack squat

NEUTRAL-GRIP PULLDOWN: Pronated pulldown, cable pull-over

DB INCLINE PRESS: Machine incline press, barbell incline press

CABLE SEATED ROW: Db one-arm row, pendlay row

CABLE FLYE: DB fly, pec deck

SEATED FACE PULL: Prone trap raise, reverse pec deck

HAMMER CURL: Pronated EZ bar curl

V-BAR PRESSDOWN: Rope triceps extension

TOCH-AND-GO DEADLIFT: Trap bar deadlift

SINGLE-LEG LEG PRESS: Eccentric-accentuated hack squat

KNEELING STRAIGHT-ARM CABLE PULL-OVER: Cable seated row

REVERSE PEC DECK: Seated face pull, snatch grip shrug, trap bar shrug

SINGLE-ARM CABLE CURL: DB alternating curl, incline DB curl

MILITARY PRESS: Barbell seated shoulder press, machine shoulder press

KB LATERAL RAISE: DB lateral raise, machine lateral raise

PLANK: Ab wheel rollout, long-lever plank

MACHINE HIGH ROW: Machine chest-supported row, inverted row

ROPE OVERHEAD ELBOW EXTENSION: EZ bar skull crusher

FRONT SQUAT: Goblet squat



PROGRAM EXPLAINED

This program is split into two distinct phases (blocks), each with a specific goal.

Block 1 is a conjugate-style volume accumulation phase and Block 2 is a DUP-style peaking phase. The overall goal of Block 1 is to master proper squat technique while building an enormous work capacity through the use of large training volumes and exercise variation. The primary goal of Block 2 is to "transmute" the adaptations built in Block 1 into maximal strength and peak performance through increased intensity (effort) and decreased volume.

BLOCK 1: VOLUME ACCUMULATION

The squat is a complicated and highly technical exercise requiring a high level of skill and total body control. Mastering technique is the single most important factor for maximizing strength on the lift, which is why we are making it a top priority early on. Block 1 also uses various accessory exercises to assist

with different aspects of the squat while increasing total workload and minimizing overuse injury risk.

Throughout Block 1 the level of exertion (intensity) is kept relatively low so that proper lifting habits can be engrained as volume accumulates. It is very important that focus and attention to detail is kept at the forefront of this block instead of simply trying to hit personal records with poor (and potentially dangerous) technique.

This phase trains the squat movement pattern 4X per week between standard back squats (2X), front squats (1X) and pause squats (1X). This relatively high training frequency will allow for efficient skill development through neural learning, [17] as the two squat variations allow for the use of lighter loads, improving overall recovery.

BLOCK 2: STRENGTH PEAKING

By the time you reach Block 2, you will have accumulated a great deal of squat volume, mastered the skill aspect of the lift, and increased lower body strength and stability through assistance lifts. At this point, your form should be nearly perfect: every rep should look identical.

Block 2 begins with a deload week to promote recovery of the joints and soft tissues. During the deload, you should be more conservative with your training intensity (avoid going to failure) and remember how important it is to be feeling fresh and well recovered before entering the more demanding phase of this 10 week program. Use the deload week to mentally prepare for the next 5 weeks of training while reinforcing perfect squat technique.

In Block 2, frequency and volume decrease as exertion and load increase, leading to a heavy max strength test in Week 10. To keep form crisp and ensure adequate recovery while training with heavier weights, squat frequency is decreased from 4X per week squatting to 2X per week in this block. If possible, aim to reduce lower body training volume by 25% in this phase and focus on using only chest-supported back

movements because exercises that tax the spinal erectors, such as barbell rows, may interfere with recovery on the squat.

Week 10 begins with a mini-deload leading into a new 1RM test or an AMRAP test with 95% of your 1 rep max. It is important to minimize any extra physical activity this week, as you want as much of your energy and recovery capacity to go into the max testing. As with the week 5 deload, you should pay close attention to technique on Day 1 and 2 of Week 10 as careful, intentional squatting will prime you mentally to hit a new big PR on the final day of the program.



SAMPLE TRAINING SPLITS

As long as total weekly volume requirements are being met and you are recovering adequately (i.e. not excessively fatigued, sore and/or getting weaker) then how you set up your split around this program is of relatively less importance. Because this is a squat specialization program, direct upper body work is not included. With that said, I have outlined below how I would recommend setting up your split for Block 1 and 2 as well as some sample upper body, push and pull workouts you can use as a guide:

BLOCK 1:

Day 1: Lower Body #1

Day 2: Lower Body #2

Day 3: Upper Body

Day 4: Lower Body #3

Day 5: Lower Body #4

Day 6: Upper Body

Day 7: Rest

BLOCK 2:

Day 1: Lower Body #1

Day 2: Pull

Day 3: Push

Day 4: Lower Body #2

Day 5: Pull

Day 6: Push

Day 7: Rest

OR

Day 1: Lower Body #1

Day 2: Upper Body

Day 3: Rest

Day 4: Lower Body #2

Day 5: Upper Body

Day 6: Rest

Day 7: Rest

SAMPLE UPPER BODY/ PUSH/ PULL WORKOUTS:

Below are sample Upper Body, Push and Pull workouts you can draw from to complete the program.

UPPER BODY WORKOUT SAMPLE:

Bench Press: 3x6

Pull Up: 3x8

Barbell Seated Shoulder Press: 2x8

Machine Chest Supported Row: 2x12

Dip: 2x12

Cable Reverse Flye: 2x15

Preacher Curl: 3x12

EZ Bar Skullcrusher: 3x15

PULL WORKOUT SAMPLE:

Lat Pulldown: 3x10

Machine Chest-Supported Row: 3x12

Kneeling Straight-Arm Cable Pullover: 3x15

Reverse Pec Deck: 3x20

Single Arm Cable Curl: 4x12

PUSH WORKOUT SAMPLE:

Bench Press: 4x8

Dumbbell Incline Press: 3x12

Military Press: 3x10

Dumbbell Lateral Raise: 3x15

Cable Triceps Kickbacks: 3x20

Remember that this routine was designed to be flexible with your current split and upper body training routine, however be careful when performing high volumes of upper body work as it may interfere with the central focus of this program (the squat). If your upper body workouts are significantly higher in volume than the sample routines above, consider reducing it for the next 10 weeks. Regardless of the split you choose, the most important thing is completing the weekly squat volume with the appropriate intensity (RPE).



TRAINING VARIABLES

FREQUENCY

WHAT DOES THE SCIENCE SAY ABOUT TRAINING FREQUENCY?

The main thing we can conclude from the scientific literature on frequency is that training each muscle twice per week is better than only training each muscle once per week [18]. One potential limitation of training frequency research is that studies are always volume equated so the subjects are actually doing the same amount of total work. In the real world, it is less likely that volumes would be equal when frequencies are different. Higher frequency training typically allows us to do more volume within a week. To illustrate this point, just imagine the recovery differences between doing 4 sets of squat 5 days per week versus doing 20 sets of squat in 1 session. So what the frequency research really tells us is that:

1. There is probably no special benefit to training a muscle more than twice per week with the same amount of volume.

2. Training a muscle more than once per week is more optimal for hypertrophy, even when volume is the same.

The flipside of principle #1 above is that, if training a bodypart more than twice per week allows you to perform more volume, then it most likely will result in increased strength and size because of the dose-response relationship between volume and hypertrophy [19]. For this reason and the fact that frequent repetition is critical for motor learning and technique mastery, this program uses a 2-4x per week training frequency for the squat.

EFFORT/INTENSITY

HOW DO YOU DETERMINE HOW HARD TO PUSH IT?

This program uses both percentage-based and RPE-based methods for determining what weights you should use, which will ultimately determine your level of effort.

%1RM BASED EXERCISES

Loads for the squat are determined based on a percentage of your 1 rep max (1RM) for that exercise. The main advantage of using a %1RM approach is that progression is ensured in an objective manner week to week. Nothing is left up to how you're feeling that day – there is a set weight prescribed in the program, and it's your responsibility to hit it. This level of precision and structure is good for certain exercises because it allows for complete accountability.

HOW TO DETERMINE YOUR 1 REP MAX

Of course, to use a %1RM approach, you must know (or at least have a rough idea of) what your 1 rep max is for that exercise. Of course, not everyone will know what their 1RM is at any given time. It may be tempting to simply test your 1RMs – lift as heavy as possible with good form for one repetition. Although

this is a seemingly simple solution, testing one rep maxes can be unnecessarily risky, and there are at least 2 better options to give you a ballpark estimate of this number. For the sake of this program, you want to use a “working max” – a weight you can definitely hit on any given day.

ALWAYS USE A SPOTTER'S ASSISTANCE WHEN TESTING 1 REP MAXES!

1. DO AN AMRAP TEST AS FOLLOWS:

- Warm up by pyramiding up in weight using estimated 1RM
- Bar x 15, 50% x 8, 60% x 4, 70% x 3, 80% x 2, 85% x 1
- Do a set of as many reps as possible with 90% of your estimated 1RM using a spotter for safety
- Alternatively, you can pick a weight you think you can do about 3-5 reps with, and do as many reps as possible using a spotter for safety
- Plug the results of the AMRAP test in to this 1RM calculator to determine your new working 1RM:

<http://www.exrx.net/Calculators/OneRepMax.html>

2. Plug the results of a recent “tough set” taken close to failure in the 6 or lower rep range into this calculator, which will estimate your 1RM: <http://www.exrx.net/Calculators/OneRepMax.html>

Note: If you do the AMRAP tests before beginning the program, do them on its own day and then rest at least 2 days before beginning Week 1, Day 1.

RPE-BASED EXERCISES

In contrast to the objective nature of the %1RM-based method, the scientific literature tends to use two subjective scales for calculating effort: rate of perceived exertion (RPE) and reps in reserve (RIR). This program uses RPE to gauge effort for all secondary and tertiary exercises. The RPE scale is ranked from 1-10, with 1 implying nearly no effort was used, and 10 implying maximal effort was achieved (training to failure) [20]. I think this can be more easily conceptualized as RPE9 meaning work at about 90% of your maximal effort, RPE8 bring about 80% of maximal effort, etc. Another way to think about RPE is as the inverse of “reps in reserve” (RIR). RIR is a scale which attempts to gauge how many additional reps

you would be able to complete after ending the set [21]. While research has shown that RIR is not very accurate for newer lifters [22], I think it is a good tool to understand at this point in your training career. So, to clarify, an RPE of 9 would mean you had 1 rep left in reserve. An RPE of 8 would mean you had 2 reps in reverse, etc.

In the program, the last set RPE column (LSRPE) is left blank for you to fill in. The idea here is to reflect on your last set and ask yourself how many more reps you think you could have gotten. It is a useful way to account for how hard you're working on the final set and how well it matches the target RPE.

AN IMPORTANT DISCLAIMER ABOUT TRAINING INTENSITY (EFFORT)

While I admire a strong work ethic, similar to volume, more effort is not always better. Properly applied effort is what we are always looking for. This means that we should reserve training to failure (or near failure) for when it fits within the context of the program as a whole.

As mentioned previously, Block 1 of the program may require some restraint and may prescribe an effort lower than what you are used to. We can think of this as taming the beast before we unleash the beast in Block 2.

VOLUME

Volume loosely refers to the total amount of work you're doing. This is often approximated as sets x reps x load, but is often simply thought of as the total number of sets. Total volume can be viewed as both volume per-session and volume per-week. Per-session volume requirements are actually quite low, with the research showing just one single set to be an adequate stimulus for strength and size, [23] however, multiple sets (3-5 sets) per muscle group are thought to be required to maximize strength and size [24]. It is important to remember that not all volume is created equally and more volume isn't always the answer. A study comparing 5 sets of 10 reps versus 10 sets of 10 reps on the squat actually showed greater strength responses in the 5 sets group, despite using half the volume. Additionally, the 10 x 10 group lost

muscle (on average) in their legs [25], so there appears to be a volume limit past which more volume is not helpful for strength and size gains.

When it comes to per-week volume, James Krieger recommends an absolute minimum of 10 sets per week per muscle group [18] with 10-20 sets per bodypart per week being a good ballpark estimate for intermediate-advanced trainees. Because of the large degree of overlap between bodyparts on compound exercises, tracking set volume per bodypart has its complications and limitations. For this reason, we will be measuring total sets per workout. These numbers will be instructive for you when moving on to further blocks of training or other programs so that you can have an idea of how your body responds to the per-session “lower body volume” laid out in this routine.

AN IMPORTANT DISCLAIMER ABOUT TRAINING VOLUME

If you’re coming to this program from a background of super high volume training, hopefully this routine will help you find the balance you need for a long and prosperous training career. Before you fall into the dangerous trap of underestimating effective programming, please remember that this program is intentionally structured in such a way that the two blocks build on each other. Also keep in mind that throughout the program, our number one priority is quality of execution.

Just because someone may be running a higher volume training program than you does not imply that they will see better results. This is because there are so many factors other than volume that go into proper program design, so it is careless and shortsighted to judge a program based merely on how many sets it has you doing. Granted, volume has been identified as one of the primary factors driving strength and muscle growth, so it must still be considered a central tenet of program design. However, this shouldn’t tempt us to fall for either of the two most common volume misconceptions:

1. The “Pedestal Myth”: the false idea that volume matters more than everything else. The reality is that ALL program variables must fit together like a puzzle, and it would be inappropriate to put one variable on a pedestal.

2. The "Quantity-Over-Quality Myth": the false idea that more volume is always better. Like the rest of the training variables, volume must be properly managed within the training week and compliment the other, more foundational programming factors like proper exercise execution v(technique), the prioritization of recovery and the management of effort.

I elaborate on basic volume concepts at the links below:

Fundamentals Ep 2: <https://www.youtube.com/watch?v=7S0NjKYIJ7I>

Volume Science Explained: <https://www.youtube.com/watch?v=qwv3JqOUqWs>



EXERCISE VIDEOS

Ab wheel rollout: <https://www.youtube.com/watch?v=DA2QGI0NPwU>

Back squat: <http://youtube.com/jeffnippard> (UPDATE!)

Barbell hip thrust: <https://www.youtube.com/watch?v=LM8XHLYJoYs>

Barbell RDL: <https://www.youtube.com/watch?v=JCXUYuzwNrM>

Deadlift: https://youtu.be/fc4_hq7tjkU

Dumbbell walking lunge: <https://www.youtube.com/watch?v=D7KaRcUTQeE>

Eccentric-accentuated lying leg curl: <https://www.youtube.com/watch?v=gb5nb40ontk>

Front squat: <https://www.youtube.com/watch?v=wyDbagKS7Rg&t=72s>

Hack squat: <https://www.youtube.com/watch?v=m2DiSYKPzqk>

Hanging leg raise: https://www.youtube.com/watch?v=hdng3Nm1x_E

Knee-banded barbell box squat: <https://www.youtube.com/watch?v=iUSrlG6Pxq8>

Leg extension: <https://www.youtube.com/watch?v=YyvSfVjQeL0>

Leg press: <https://www.youtube.com/watch?v=lZxyjW7MPJQ>

Lying leg curl: <https://www.youtube.com/watch?v=1Tq3QdYUuHs&t=1s>

Plank: <https://www.youtube.com/watch?v=CS9X0-GUJS4>

Reverse hyperextension: https://www.youtube.com/watch?v=3kzAV20d_dE

Seated good morning: <https://www.youtube.com/watch?v=S7WGAvaxGx0w>

Seated leg curl: <https://www.youtube.com/watch?v=ELOCsoDSmrg>

Snatch grip deadlift: <https://www.youtube.com/watch?v=GP6VNolZyF4>

Stiff leg deadlift: <https://www.youtube.com/watch?v=jYEVqa4C0yg>

Single-leg leg press: <https://www.youtube.com/watch?v=ZYDTJaAM-gE>

Touch-and-go deadlift: <https://www.youtube.com/watch?v=Djqf1RKCUsY>



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For customer support please email info@strcng.com. As much as I love connecting on social media, I am not able to reliably respond to the questions I receive across platforms so please direct any questions to the email above. Please allow 3-5 business days for an email reply.

Thank you so much for your support and good luck with the training!



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SQUAT

SPECIALIZATION PROGRAM

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