# The Ultimate Anatomical Guide To Freaky Big Calves Part II

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## Abstract

Armed with a crisp understanding of ankle flexion and extension, we will now move on to perfection. When I say perfection, I am referring to an innate ability to target each and every prominent muscle housed in the lower leg region. If you asked anyone in your gym to name the muscles that reside there, they would only be able to come up with one and perhaps two at the most. And you wonder why the calves are the most underdeveloped body part in our sport! Today, I will cover more than one. In fact, three, four, or even five won't suffice. I will break down, in depth 12 total muscle groups in the lower leg region. Each of which are significant to firstly overall mass, and secondly an innate ability to create and sculpt the lower leg.

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## Frontal Muscles / Anterior Calf Muscles

If a person came up to you and said he had small arms and needed assistance, you would then ask what his routine was. Hypothetically, lets say that he told you that he only worked his biceps out, but for the life of him couldn't get his arms past being 10 inches in diameter. At this point you would want to slap the guy and tell him to start training triceps right?!

Unfortunately, the majority of bodybuilders do not apply this basic concept to their calf region. Can you honestly say, that you put as much effort into building the anterior muscles of your lower leg, as you do the posterior? I'm going to break the news to you in simple terms. You are sabotaging your growth, just as severely as if you only worked one part of your arms! There are four prominent muscle groups that lie in this region and we need to seriously analyze them!

**1.** The Tibialis Anterior - Aesthetically speaking, the tibialis anterior has several attributes.

**A.** The sweeps - As you can see from the picture below, a well developed tibialis, will create a beautifully freaky, frontal, outer calf sweep. In other words this not only adds width to the lower leg, but does it with a tremendous, crescent type flair. Before continuing, I need to explain the importance of joint size. You see in this sport, many a judge would say that joint size is the most genetically sought after gift that we know of. Simply put, the smaller your joints are, the larger your muscles appear to be. The knee joint is of key importance in this equation, and is vital to both the appearance of your quads, waist and deltoids. I know that may sound strange, but any illusionist or artist knows that one aspect of the body can affect all others. You see, if my knee joint is smaller, my quads seem to flair out more dramatically, and if my quads flair out more dramatically it makes my waist appear smaller, which in turn makes the deltoids look wider. By creating an outer frontal

sweep on the lower leg, you will literally make your knee joints appear to have shrunk in size. And the wider the sweep, the smaller the joint will appear!

**B.** Mass - This is self explanatory. As far as brute size is concerned, the tibialis is second to none! Worked properly, you can add an insanely incredibly amount of size to this area! In fact, I will explain shortly why this muscle group may have more potential for growth, than any other region of the calves! This will give you more inches when you measure the calf region then you could possibly imagine!

**C.** Separation - I want you to take a close look at the picture below:

**pretty freaky ehh!?**

It is evident that this muscle creates an uncanny separation between itself and your posterior calf region. Furthermore it makes your actual tibia appear more pronounced, which is of vital importance when on stage. Essentially the freakier you appear up there, the greater your chance of victory will be!

**P**hysiological Analysis of The Tibialis Anterior

Origin: Upper two thirds of the tibia
Insertion: Medial cuneiform and base of the first metatarsal

The next step towards understanding this muscle is to label both its origin( immoveable attachment site ) and insertion( moveable attachment site ) points. It originates in the upper two thirds of the tibia bone, and then spirals downward, covering approximately three fourths of the length of the bone. Then the fascia covering it extends out into a thin, yet strong tendon and inserts into the base of the big toe, essentially where it meets the foot (click here for description on fascia and tendons ).

**A**ctions

**1.** The best way to understand the actions created by the placement of this muscle, would be to imagine a similar scenario. Lets say that for some odd reason you super glued a strong piece of string or rope at the bottom of your big toe. Now, grasp that string from an angle similar to the origin of the tibia and pull upwards. What do you think would happen? Firstly it would dorsi flex your foot. It just so happens that this anterior muscle is the number one dorsi flexor in your body! Therefore you want to apply resistance against this action in order to properly build the muscle group up. The most basic exercise is the reverse calf raise. What most people do not realize is the extreme variety of reverse raises available. For example , if you attach cable cuffs to your feet you can perform weighted reverse raises. A favorite of Old School is reverse smith machine raises, they are perhaps the best variation available( I will discuss more dorsi flexion exercises shortly ).

**2.** Secondly from that angle, when the string was pulled, it would cause your foot to turn inwards and upwards or as we discussed in the last article, you would stimulate the action of inversion. And this being the case, you could create hypertrophy in the target area by placing the process of inversion under a load of opposition. This is a movement, rarely mimicked, in any way, shape, or form in the gym. In turn, there are millions who are not getting near the growth potential that is available to them! I use many a method on this. One simple method is to rap a towel around your foot and pull on it with your arm strength, so that it becomes eversed( the opposite of inversion). Then invert your foot with the strength of your tibialis while continuing to apply consistent tension against this action with the towel. Secondly you can attach a cuff to a low cable pulley, and then hook that to the top portion of your foot, almost as if you were putting on a sock. Now stand to the side of the machine so that it tugs the ankle and everts your foot. Then simply invert your foot against the resistance of the cable pulley!

In my own home I have thera bands lying everywhere! I personally use them for several calf movements, and find it especially useful in stimulating growth through inversion. Simply purchase some rubber tubing / thera bands. They are extremely cheap and will serve you 1, 000 times anything you can spend! Once you have it, sit with your leg outstretched in front of you. From here cross the leg not being worked over the ankle of the target foot. Wrap the tubing around the ball of your foot and then loop it around your unused foot so that the Thera-Band is anchored there at one end. Hold the other end of the Thera-Band in your hand. Turn the target foot inward and upward. This will stretch the tubing. Return to the starting position.

You can do this while simply watching tv ( of course I rested between sets ), or even relaxing on the couch.

An extremely effective tibialis movement

What really gets me, is that countless bodybuilders will ignore significant movements such as this. I need to emphasize that our sport is like no other. In essence we are literally artists, and more specifically sculptors!
Sculpting is a very monotonous, and painfully detailed art. No great artist can ignore even the smallest detail. Therefore, think of power movements such as reverse calf raises as your larger hammer and chissel, and movements that stress inversion as the smaller chisel, in which you literally take a good muscle group, and turn it into a great work of art!

If there is one thing I have stressed in beyond failure magazine, it is the importance of achieving a state of peak contraction. I do not believe an athlete can achieve maximum growth, or stimulate an optimal amount of muscle fibers if he does not shorten his muscle fully at the end of a repetition. In order to achieve this in the tibialis when performing reverse calf raises, you need to not only dorsi flex, but also invert your foot at the end of the movement. This will stimulate greater growth in the target muscle group. Adam " Old School " Knowlden inspired this one. What you need to do is try and touch the base of your big toe to the opposite side of your shin every time you perform a reverse raise. As long as you focus on such a movement, you will achieve a peak contraction, every time( I will discuss more inversion exercises shortly! ).


dorsi flexion & inversion

**3.** Finally the tibialis helps support what is called the " medial arch " of the foot. As you recall, medial refers to the inner, aspect of a body part, or the aspect that is closer to the midline of the body. Therefore this arch is the inner arch of the foot.

Think back to the last time you stepped out of a pool and left your foot print on the sun dried ground. The part of the foot that did not show up is the medial arch. It originates at the heel, arches upwards into the foot and travels approximately to the base of the big toe. This arch, combined with others does several things, each important to tibialis growth. It helps support, balance, and distribute your body weight over the foot region. It also provides extra force when walking or running! Additionally, the medial arch acts as a shock absorber whenever weight is transferred onto your foot.

Therefore it would behoove you to include exercises routinely that make the process of weight distribution or balance more difficult. In essence forcing your body to both balance itself and perform dorsi flexion, or inversion will force your tibialis to recruit more muscle fibers. One of the simplest ways of doing this is to perform your exercises on one foot! One legged reverse calf raises, with dumbbells, barbells, on a high block, low block, or the smith machine. I also recommend performing them flat on the ground. For example, when I am finished performing reverse calf raises I will stand on one foot with a pair of dumbbells and dorsi flex it. What you will notice is that you can barely produce a range of motion, however it will still call muscle fibers into being that are used to being dormant, and the blood pump will be tremendous.

**D**rastically Enhance Your Range of Motion

A fascinating fact involved in tibialis training is that your range of motion will always be limited when your knee is extended. Therefore, even though standing exercises allow more weight to be placed on the area, they do not allow for a full range of motion. The reason being that the gastrocnemius( major posterior calf muscle ) is fully tensed in this position and will only allow the tibialis a partial plain of movement. However, when tension is released from the gastrocnemius, the frontal calf muscles can move through a greater range of motion. Perhaps my favorite exercise for the anterior region is seated plate raises. You can perform these in several ways. The first is simply one foot at a time. Set up a chair, or bench and take a seat. From here, place one plate on the ground. Now elevate your heel onto the plate, and take a second plate and place its edge gently onto the first half of your foot. From here, simply dorsi flex your foot upwards, invert it for a peak contraction and then lower slowly under control. You can stack two plates on top of each other to enhance your range of motion, or use a high calf block to take advantage of the lessened tension on your posterior calf muscles. The second variation is to elevate

both of your heels onto a 45 pound plate, then place another plate onto the edge of both of your feet, followed by repetitions. Finally You can place a plate under each heel and a separate plate on each foot, performing repetitions simultaneously with both legs.

**Insane workout using plates!**

In the middle of a workout throw this combination of seated plate raises into the mix( perhaps in the middle or end of your workout). Perform 50 one legged repetitions on your right leg, and then immediately perform 50 on your left. Rest 1 minute and repeat, only this time skip the one minute rest and immediately perform 75 reps on the right leg with the same weight( you will probably have to use the rest pause training principle here ) then perform the same amount of reps on your left leg. Rest 2 minutes, and perform seated plate raises with one plate, using both legs. Perform 75 repetitions and then pause at the top for a peak contraction totaling 30 seconds! After this continue to perform repetitions. When you reach 150 reps pause for another 30 second contraction. Then perform 50 very quick partial repetitions to enhance the blood pump!

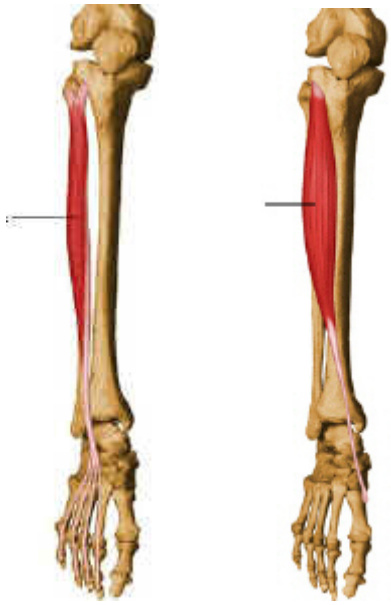
**Note:** I will discuss stretching for all 4 muscle groups when I finish analyzing each of them. I will also discuss how to enhance the insertion point of each of these muscle groups!

**M**uscle Fiber Ration of The Tibialis Anterior!

It is vital that we now cover this muscles fiber distribution. This way we understand what repetition range will maximally stimulate growth in the area. After all, you can know as much about this muscle's actions as is possible, and be working the smaller percentage of muscle fibers including in it, and therefore never see optimal results from your training! According to muscle biopsies, the makeup is normally 73 percent type one, slow twitch oxidive muscle fibers, and only 26 percent fast twitch( 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 ). Another cool fact presented by Dr. Cooper in 1966 is that it houses over 370, 000 thousand total muscle fibers( 9 )! Let me point out the fact that most bodybuilders ignore slower twitch cells. In this case, that would cause you to neglect the extreme growth potential of over 270, 000 fibers! Finally, these cells are loaded with mitochondria, and building density in this area will also contribute to size. It is of course, still important to build up the fast twitch fibers, as they are larger and still account for 100, 000 fibers in the tibialis.

**Note:** for extremely in depth information on how to target fast and slow twitch muscle fibers click here for rep ranges, and click here for ratios - man, you gotta love abcbodybuilding, even I have to admit how incredible we are!

**2.** The Extensor digitorum longus - Aesthetic attributes.



left pic is digitorum longus, right pic is tibialis

As you can see I have placed a picture of the digitorum longus, right next to the tibialis so you can see the comparison for yourself. This particular muscle is positioned further, laterally then the tibialis and also travels slightly farther up and slightly farther down the shin bones then its neighbor as well. Therefore, aesthetically speaking, the digitorum longus will add more flair to the frontal, outer calf sweep, and also bring your calves lower, and increase the upper frontal calf region as well.

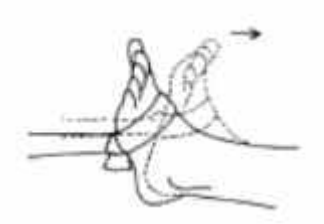
## Physiological Analysis of The Digitorum Longus

The digitorum longus origionates, via two tendons, into the upper most regions of both the tibia and fibula. It lies along the fibula however, in a dramatic sweeping motion almost to the very bottom, where the ankle bone resides. Then the fascia covering the muscle ends out into a thin tendon, which then splits into four extensions. These four extensions reach the end of their journey's by inserting themselves at the end of the 2nd through fifth toes, right where the bottom of your finger nails would be.

### Actions

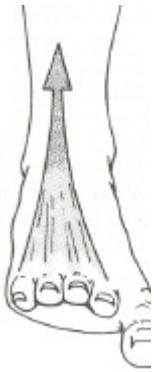
**1.** Due to its positioning, you can easily see that this muscle acts as a strong dorsi flexor. Therefore all the dorsi flexing techniques previously discussed will be extremely applicable here. Including the bent knee increasing ROM. Let me add a puzzling fact that I find hard to come to grips with. Calves are very similar to forearms in their response to growth. In comparison however, the forearms are almost always worked with some kind of wrist curing action, and yet most athletes never apply this same concept to ankle flexion and extension? This is again, one of the main reasons why the calves are such a common weak point. You can use tubing for this or a cable cuff. Both will work great.

Sit with the target leg in front of you and your foot facing a doorway. Tie a loop in one end of the Thera-Band. Put your foot through the loop so that the tubing goes around the arch of your foot. Tie a knot in the other end of the Thera-Band and shut the knot in the door. Move backward until there is tension in the tubing and your digitorum is fully stretched. From here pull your foot toward your face, stretching the tubing. Slowly return to the starting position. For more resistance you can tie several therobands together. Also very between having a bent leg, and a straight leg in this exercise( straight for partial quicker movements, and bent to emphasize a full range of motion. ) Again, you can attach a cable cuff onto your foot and perform the same action.



Another curling motion can be produced with a partner and a towel. Simply sit down on the ground, and place your target foot out in front of you. Now have your partner, take a towel, and rap it around your frontal foot. He should place resistance so that your frontal calf muscles get a complete stretch. From here simply perform dorsi flexion. I've seen many an athlete benefit tremendously from this one!

**2.** The insertion point discussed, means that the digitorum longus is very much responsible for dorsi flexion
of the 2nd through 5th toes. If your goal is to maximize stimulation of this muscle, then at the end of a dorsi flexion of the foot, you will need to also forcefully dorsi flex each of those toes! Again, invert the foot and dorsi flex it to fully target the tibialis, but if you want to shift the load to your digitorum longus, you will need to focus on dorsi flexing your four toes instead!



dorsi flexion of last four toes

Moreover, dorsi flexion of the toes can add both size and detail to this region of the calves. One way to do this is to stand straight up, point your toes downward and allow them to make contact with the ground and move your foot forward. So your four toes should be plantar flexed( the opposite of dorsi ) completely and touching the floor. Essentially, you will make contact all the way up to the knuckles of your

toes. From here apply a bit of resistance with your own bodyweight, and while doing this, extend your toes upwards and backwards toward the shins until you are on your tippy toes, then lower under control.

My personal favorite mode is to simply use my hand as a means of resistance. What you would do is take a seat. Then you would cross the target leg over and rest it onto your knee( the ankle should rest on the knee and the foot should be suspended in mid air ). From here use your hand to press your toes downwards and inwards, then dorsi flex them against the constant tension being applied. Try that out for 5 high repetition sets and I guarantee you'll be begging for mercy! And most importantly you will grow! You can also use this to pre-fatigue the digitorum before dorsi flexion exercises are applied.

## Muscle Fiber Ratio

This is where muscle fiber ratios become extremely intriguing. You see, unlike the tibialis, this muscle group has more fast twitch fibers, than it does slow twitch. The digitorum longus, is made up approximately of 53 percent fast twitch fibers, and 47 percent slower twitch fibers( 1, 2, 7, 11, 12). With this in mind, the majority of work done in this area, would be heavier, and lower rep than when working the tibialis. Furthermore, even though they both dorsi flex, you would target more of the digitorum working heavy, simply based on the fact that its makeup is different than its neighboring muscle. Therefore hypertrophying techniques( rep and weight wise ) applied through dorsi flexion will have a selective effect between the muscle groups.

A prime example of this would be the integration of old school negatives into your program. This would target more fast twitch fibers than slower twitch oxidative ones, based on the enhanced workload.

**3-4.** The Extensor Hallus Longus and Peroneus Tertius - Aesthetically combined attributes.

Peroneus teritius is the muscle to the left,
the Extensor hallucis is the muscle to the right.

Athletically speaking, the peroneus teritius( left ) and the hallis longus( right ) add thickness and density to the lower, middle, frontal calf region. These muscles make your shins appear as if they were made of pure steel! Furthermore, when flexed they cause the absolute freakiest indents into the frontal region. The first time I ever noticed this, was when I studied a posing film of Chris Dickerson( former Mr. Olympia ). Chris was known for massive, 3d calves! During a pose, I remember him flexing his anterior calf region, and with a dramatic, rippling effect, from his foot all the up his shins, the muscles seemed to suck in, as if he were performing a stomach vacuum with his calf muscles! It was absolutely spectacular! It was then that it became clear to me, exactly why this Gladiator was Mr. Olympia. The reason, was that he refused to allow, even one aspect of his body to go un-sculpted!

**P**hysiological Analysis of The Extensor Haulucis Longus

The extensor Hallucis Longus originates in the middle of the fibula and inserts near the end of the big toe.

**A**ctions

Its pretty apparent that this muscle assists in dorsi flexion of the foot( again same principles from above apply), but due to its insertion point, it also is the prime dorsi flexor of the big toe! A great trick is to use the same technique as discussed above( using your hand as resistance against the toes ) for the toes. However, for a better contraction, try first dorsi flexing your foot to contract the hallucis longus muscle, then, while contracted, place resistance on your big toe, and dorsi flex it up and down. I liken this to partial repetitions on the upper region of a biceps curl. This same technique works on toes 2 through five, in regards to the digitorum longus.

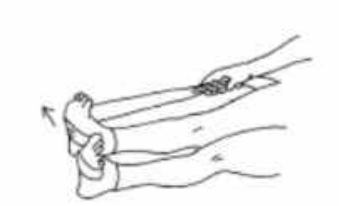
dorsi flexion of big toe

**P**hysiological Analysis of The Peroneus Tertius

This muscle originates at the very bottom of the inner fibula and smoothly departs downwards until it meets the ankle bone. At this stage the fascia binding the muscle extends out into a tendon and inserts into the middle of the foot, and is in line with the pinky toe.

Actions

**T**his muscle again assists in dorsi flexion, however, it also serves as a prime candidate for the process of eversion. Which means that it lifts your foot outwards and upwards. Therefore if you want to emphasize extremely lower calf thickness, then after dorsi flexing your foot, evert it as well, in turn stimulating maximum growth in the peroneus tertius. You can also use a theraband, or cable to mimic eversion, just as you mimicked inversion!



Finally I would like to discuss inverted calf raises, and everted calf raises. Take a plate and set it on the ground. From here, place the side, half edge of your foot onto the plate( as if I drew a line, lengthwise down the middle of your foot you ). If you would like to work the action of eversion, then rest the lateral half of the limb onto the plate. If you decide to work through inversion, then place the medial side of your calves onto the platform. From here, allow the opposite half of your foot to hang off of the plate, then either invert or evert your foot up onto the surface. It is just like a normal one legged standing calf raise, the positioning, however is different.

## How To Stretch The Frontal Calves And Enhance Their Insertion Points

**note:** stretching directly enhances growth! for more information on this subject click here

The same principle of contraction, is applicable to stretching the frontal calf muscles. In other words, if you bend your knees, you will increase your range of motion tremendously. There are a few stretches that work here, but my absolute favorite is actually a quadriceps stretch. More specifically the seated quadriceps stretch shown below.

**seated quadriceps stretch**

The key however is to focus your mind on the ankle joint and not your quadriceps. Another one **is the opposite** of a traditional standing calf stretch. Simply place your hands against a wall( facing the wall ) and position the back end of your foot( in traditional u would have your sole on the ground, but here you have the vary top end of your foot on the ground ) on the ground and lean into it. If you want to place an emphasis on the tibialis anterior, and extensor hallucis then place more pressure with your bodyweight onto, or towards the thumb toe area. If you want more emphasis on the peroneus teritius you should place more pressure onto the lateral side of my foot, where the pinky toe resides. And finally if your goal is to stretch the digitorum longus, then place equal pressure on your second through fourth toes, or right below them as they cannot take that much strain. Another technique would be an assisted platform stretch. Simply sit down, and place a platform underneath your feet. From here, elevate your heels on the platform( it should be high enough so that your toes do not touch the ground ) and have your partner push your feet downwards, fully stretching the frontal region of the calves. If you do not have a partner, then use cables or thera bands to stretch the area.

Remember, stretching causes separation and enhances growth between each muscle group. If you want to be a walking anatomy chart you will incorporate this. A great example of stretching would be to first perform a set of weightless standing, reverse calf raises until you literally cannot move your feet upwards! And even then perform several partial reps. The blood pump should be so intense, that it will feel as if someone is stabbing your shins with a knife! From here, immediately go into a seated stretch and emphasize the weight distribution onto your shin muscles. Hold this for 30 seconds, and then stand up and flex your frontal calves for 30-60 more seconds to expand the fascia surrounding the muscles.

As you recall from my article on targeting muscle groups, it has been proven, without a shadow of a doubt, that an emphasis on working the muscle while in a lengthened position, will actually add sarcomeres in series. This would mean that the area near the insertion point of the muscle group would be much fuller, and more pronounced. Personally, I believe that their is nothing freakier then actually being able to see the tibialis anterior insert into the tibia! When you have achieved such a state, you will not be able to stop looking in the mirror, I guarantee it. The

key is to again emphasize the negative rep, and the stretching portion of the exercise, in which the muscle lengthens. Old school negatives on a smith machine work very well here.
I would also recommend emphasizing a very slow negative. Literally take 10 seconds to descend. Additionally try partial reps in the lower half of the exercise, or one and a half reps emphasizing the stretch. I would also recommend cable negatives, as they keep constant tension on the frontal calf.

Finally, and in my opinion most productively, you should use applied hand and or arm resistance on your foot.
This means again crossing your leg over your knee as discussed above. At this point, dorsi flex your foot with no resistance, but on the way down apply a tremendous amount of pressure on the foot with your arm, and resist it with your foot! Focus on feeling the muscle stretch and lengthen and imagine the insertion point becoming more pronounced! Believe me, this technique will work wonders!

## Conclusion

The human body is incredible isn't it!? And with this new information, I know you now clearly understand the vast important of frontal calf development! If it is not receiving every bit as much attention as your other muscle groups, then you are seriously hindering performance across the board. However, if you do hearken to my words, you will open up a whole new can of both growth, and athletic performance!

In order to reach about the posterior and side calf regions, click here

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