

8 Weeks to Bigger Anterior Lower Leg - Fine Tuning Lower Leg Freakiness!

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ATP is an abbreviation for *adenosine triphosphate*, a complex molecule that contains the nucleoside adenosine and a tail consisting of three phosphates.

ATP captures the chemical energy released by the ignition of nutrients and transfers it to reactions that require energy, for example, as in muscular contraction. Moreover, ATP serves many other purposes including, the building up of cell components, transmission of nerve messages and many other various functions.

ATP is a multi-faceted nano-machine that serves as the chief energy currency of the cell. A nanomachine can be described as "a complex precision microscopic-sized machine that fits the orthodox definition of a machine". ATP is the most widely distributed high-energy compound within the human body.

(Figure 1- An Outline of the ATP-synthase macro-molecule showing its subunits and nanomachine traits. ATP-synthase converts ADP into ATP, a process called charging. Shown behind ATP-synthase is the membrane in which the ATP-synthase is mounted. For the ATP that is charged in the mitochondria, ATP-synthase is located in the inner membrane. Courtesy: CRSQ vol. 39, 1999.)

As you read this, ATP is supplying the energy for the functioning of your brain, the beating of your heart and the contraction of your muscles! Similar to the release of energy stored in a compressed spring, so energy locked up in the ATP molecule, when triggered chemically, is released and made available to do work in our cells.

The ATP is used for a wide variety of cell tasks including transportation work, i.e., moving substances across cell membranes. It is also used for mechanical work such as supplying the energy needed for muscle contraction. It supplies energy not only to heart muscle for blood circulation, and skeletal muscle for overall body movement, but also to the chromosomes and flagella to facilitate them to carry out their many functions.

All fuel resources of nature produce ATP, which in turn powers virtually every action of the cell and organism.

A foremost role of ATP is in chemical control, supplying the needed energy to synthesize the multi-thousands of types of macromolecules that the cell needs to subsist.

It is but one example of many millions of exceedingly intricate nano-machines that needs to have been designed in order for life to exist on earth. This molecule is an excellent example of irreducible complexity because it is necessary in its entirety in order for even the simplest form of life to survive.

In order to function, every machine requires specific parts such as the screws, springs, cams, gears, and pulleys. Likewise, all biological machines must have many well-engineered parts to work. Examples include units called "organs" including the liver, kidney, and heart. These complex life units are made from even smaller components called cells which in turn are constructed from yet smaller machines called organelles. Cell organelles include mitochondria, Golgi complexes, microtubules, and centrioles. Even below this level are other parts so small that they are formally classified as macromolecules (large molecules).

All organisms (a body made up of organs, organelles, or other parts that work together to carry on the various processes of life) use ATP as their *principal energy currency*. The energy level it carries is just the precise quantity for most biological reactions. Nutrients contain energy in low-energy covalent bonds which are not very useful to do most of kinds of work in the cells. The role of ATP is to convert these low energy bonds to high energy bonds.

Imagine the metabolic confusion if this was not so: Each of the diverse "foodstuffs" would generate different energy currencies and each of the great variety of cellular functions would have to trade in its unique currency.

How is this energy produced?

Energy is released from the ATP molecule to do work in the cell by a response that removes one of the phosphate-oxygen groups, leaving *adenosine diphosphate* known as ADP.

When the ATP converts to ADP, the ATP is referred to as "spent". From there the ADP is usually immediately recycled in the mitochondria where it is recharged and comes out once again as ATP. Referring to this process, James Trefil noted "*hooking and unhooking that last phosphate on ATP is what keeps the whole world operating.*" (Cool huh!)

The colossal amount of activity that occurs inside each one of the approximately one hundred trillion human cells is propounded by the fact that at any moment each cell contains about one billion ATP molecules. This amount is ample for that cell's needs only for a few minutes before it must be recycled! Given the estimated hundred trillion cells in the average male, about 10 to the 23rd power, or one sextillion ATP molecules exist in the body. For each ATP molecule the terminal phosphate is added and removed 3 times each minute.

Talk about real nanotechnology!

The ultimate source of energy for constructing ATP is food; ATP is simply the carrier and regulation-storage unit of energy. So while the total human body content of ATP is about 50 grams, it must be constantly recycled every day. A daily intake of 2,500 calories converts into a turnover of a monstrous 400 lbs of ATP!

Much like the power molecule ATP, our ideal physiques represent a state of irreducible complexity.

What exactly does an irreducibly complex physique appeal too?

A physique in which it is athletically unacceptable to be reduced to a simpler, smaller form or amount.

Following this protocol it is the desired outcome of the observant body builder to bring out the intricate details of his/her physique. In seeking an irreducibly complex anatomy the athlete pre-conditions themselves for a state of perfection, usually taking place in the mind's eye.

Often times, as many have noted in our recreation forum, we observe athletes in the gym, day in and day out, performing the same workouts consisting of bench presses, barbell curls, and pull-downs. With such habitual behavior it is easy to spot the serious body builder, from the casual lifter.

Body builders are "sticklers for particulars". Their body can not be broken down into parts that are not worth detailing and molding.

No muscle group is un-important to the total package of their physique, or unworthy of specified training. Indeed, specified training of characteristically ignored muscle complexes is what sets the advanced body builder apart from the eternal beginning body builder.

Detail can be described as a discrete part or portion of a work, such as a painting, building, or decorative object, especially when considered in isolation. Moreover, a representation of such a part or portion: *a detail of a Rembrandt portrait illustrating the technique of chiaroscuro* ; A small elaborated element of a work of art, craft, or design, or in the case of this series, the tibialis anterior. Often a neglected muscle (when was the last time you saw anyone performing a hardcore set of reverse calf raises at your local gym?), the Tibialis Anterior is actually responsible for a large majority of mass and sweep in the lower leg region. This is one muscle group you do not want to disregard! As such, we will hone in on this area, increasing hypertrophic status to a new level!

"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, let's 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!"-Jacob Wilson

This is an excellent rendition of the ideal irreducible complexity of our physiques.

Our physiques rest upon intricacy.

Biologically, if a structure is so intricate that all of its parts must initially be present in a suitably functioning manner, it is said to be irreducibly complex. In a biological sense, it also means that if any part of that system were to be absent or removed, the system would cease to function. Therefore, any step to simplify an irreducibly complex system would result in a non-functional system.

This same protocol can be applied daily to our body building mentality and goal setting initiatives. Striving for a body that is irreducible intricate, to the finest detail, should be the greatest objective. And if one part is out of sync, all efforts are made to remedy this situation, as to not remove from the complexity, and render the ideal goal of a walking anatomical chart a non-functional scheme.

I believe irreducible complexity is what separates the hardcore athletes of ABC body building from the rest of the lifting world. We have a mindset of "a training session of anterior lower leg work is just as important as bench press day", something the average gym goer would get nauseous even considering!

Anatomy of the Anterior Lower Leg

President Wilson covers the structural and anatomical features of the Frontal lower leg extensively in [The Ultimate Anatomical Guide to Freaky Big Calves Part II](#).

Foot positioning also plays a vital role in achieving peak contractions across the various muscle groups of the anterior leg (see [The Ultimate Anatomical Guide to Freaky Big Calves Part I](#)).

In summary:

Inversion is turning the sole of your foot medially(inward/right), while eversion, the sole of your foot is turned laterally(outwards/left).



Moreover, dorsi flexion is an upwards motion of the foot while plantar flexion is a downwards motion.



The following foot actions will emphasize peak contraction on the following anterior calf muscles:

- Tibialis Anterior- Dorsi flex and invert Foot
- Digitorum Longus- Dorsi flex and invert four toes.
- Hallucis Longus- dorsi flex and invert big toe.
- Peroneus Tertius- Dorsi flex and evert foot.

It is recommended to use all various actions of foot positioning throughout these workouts, to better ensure development of all various muscles in the anterior leg.

I'm not going to dictate when in these workouts to alter foot placement, I will leave that to your judgment. I liken it to varying toe position during calf workouts. The more angles you can target the muscle complex from, the more growth stimulus the muscle complex will receive.

If you feel you are lagging in one of these particular muscles, I recommend utilizing the sculpting protocol I prescribed in [Monumental Masterpiece - Creating A Cerebral Portrait](#).

Use both the various foot positioning and the specific muscle fiber ratios to better plan an assault on the targeted region. (see [Muscle Fiber Ratios of The Anterior Calves](#))

I am not going to prescribe general repetition ranges, so realize you can alter the numbers to better hone in on a particular muscle grouping.

You might also use the *specialization principle* as layed out in [24 Weeks To Battering Ram Pushing Strength Part III \(Deltoid Guideline \)](#) , dividing the various lower leg muscle groups evenly throughout all 8 phases.

Amplified Size

The anterior leg has much potential for growth. So much so, that this area simply can not be ignored by the serious body builder. One of the major contributors of this potential is due to the high number of Type-one muscle fibers located in this region. Slow twitch dominance means a potential for high mitochondrial density (see [Muscle Fibers Part Three](#))!

ATP is engineered as a result of numerous cell processes including fermentation, respiration and photosynthesis. Generally the cells use ADP as a precursor molecule and then add a phosphorus to it. In eukaryotes this can occur either in the soluble portion of the cytoplasm (cytosol) or in special energy-producing structures called *mitochondria* (see [Muscle Fibers Part Three](#)). Charging ADP to form ATP in the mitochondria is called chemiosmotic phosphorylation. This progression transpires in specially assembled chambers situated in the mitochondrion's inner membranes.

The mitochondrion itself functions to produce an electrical chemical gradient—somewhat like a battery—by building up hydrogen ions in the space between the inner and outer membrane. This energy comes from the approximate 10,000 enzyme chains in the membranous sacks resting on the mitochondrial walls. The majority of the energy (food) for most organisms is produced by the electron transport chain. Cellular oxidation in the *Krebs cycle* (in all plants and animals: a series of enzymatic reactions in mitochondria involving oxidative metabolism of acetyl compounds to produce high-energy phosphate compounds that are the source of cellular energy) causes an electron build-up that is used to push H^+ ions outward across the inner mitochondrial membrane.

As the charge continues to build, it supplies an electrical potential that releases its energy by causing a flow of hydrogen ions across the inner membrane into the inner chamber. The energy causes an enzyme to be connected to ADP which catalyzes the addition of a third phosphorus to form ATP.

Plants can also produce ATP in this manner in their mitochondria but plants can also produce ATP by using the energy of sunlight in chloroplasts. In the case of eukaryotic animals the energy comes from food which is converted to pyruvate and then to acetyl coenzyme A (acetyl CoA). From there, Acetyl CoA enters the Krebs cycle which in turn releases energy which results in the conversion of ADP back into ATP.

How does this potential difference serve to reattach the phosphates on ADP molecules? The more protons (a stable particle with positive charge equal to the negative charge of an electron) there are in an area, the more they repel each other.

When the repulsion reaches a certain level, the hydrogen ions are forced out of a revolving-door-like structure mounted on the inner mitochondria membrane called ATP synthase complexes. This enzyme functions to reattach the phosphates to the ADP molecules, again forming ATP.

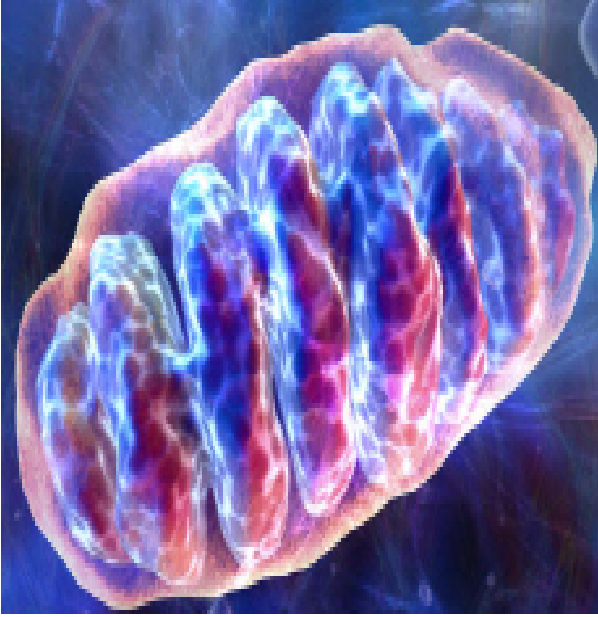


Figure 2- Structure of Mitochondria

The ATP synthase revolving door resembles a molecular water wheel that harnesses the flow of hydrogen ions in order to build ATP molecules.

Each revolution of the wheel, or what is called "the mushroom cap", is literally a motor! This motor requires the energy of about nine hydrogen ions returning into the mitochondrial inner chamber.

Perhaps one of the leading researches in this field is Hongyun Wang. Wang's research in biophysics and molecular modeling is to investigate the mechanism by which chemical energy is converted into mechanical work in biological systems.

"ATP synthase is certainly the most ubiquitous example of a chemi-mechanical transduction device in nature. It is capable of converting transmembrane chemical gradients into the rotary mechanical motion of the gamma subunit that in turn is coupled to ATP formation. It can also be run in reverse, in which case the chemical energy of ATP can be used to generate mechanical motion or to pump protons against a chemical potential. "

Located on the ATP synthase are three active sites, each of which converts ADP to ATP with every turn of the wheel.

Like any other motor it rotates, and surprisingly fast - in fact at about 6,000 revs per minute! Further, it is the last word in ultra-miniaturization, being 200,000 times smaller than a pinhead! And we have rather more of these motors than most vehicles! Indeed, every cell in the body has hundreds, if not thousands of them.

Under maximum conditions, the ATP synthase wheel turns at a rate of up to 200 revolutions per second, producing 600 ATPs during that second!

"It's one of the most complex molecules ever revealed, almost six times larger than the blood molecule hemoglobin," says Pedersen. It's also, the researchers agree, one of the tiniest and most powerful motors ever identified.

ATP is used in combination with enzymes to cause certain molecules to bond together. The correct molecule first harbors in the active site of the enzyme along with an ATP molecule. The enzyme then catalyzes the transportation of one of the ATP phosphates to the molecule, thus transferring the energy stored in the ATP molecule.

Next a second molecule docks nearby at a second active site on the enzyme. The phosphate is then transferred to it, providing the energy needed to bond the two molecules now attached to the enzyme. Once they are bonded, the new molecule is released. This operation is similar to using a mechanical jig to properly position two pieces of metal which are then welded together. Once welded, they are released as a unit and the process then can begin again.

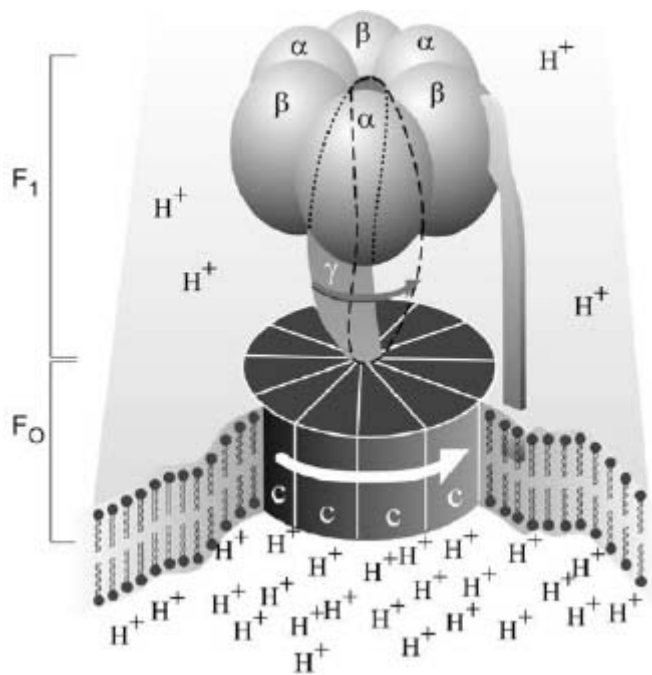


Figure 3

(Figure 3- Simplified Picture of ATP Synthase)

ATP synthase (F₁F₀-ATPase) is the central enzyme in energy conversion in mitochondria, chloroplasts and bacteria. It uses a proton motive force, generated across the membrane by electron flow, to drive the synthesis of ATP from ADP and inorganic phosphate.

The F₀ part through which hydrogen ions (H⁺) stream is located in the membrane. The F₁ part which synthesises ATP is outside the membrane. When the hydrogen ions flow through the membrane via the disc of c subunits in the F₀ part, the disc imparts a twist to the g - subunit which protrudes from the F₁ part and is attached to

the disc. The three alpha and three beta subunits in the F1 part cannot rotate, however. They are locked in a fixed position by the b subunit, which in turn is anchored in the membrane. Thus the gamma subunit rotates inside the cylinder formed by the six alpha and beta subunits. Since the gamma subunit is asymmetrical it compels the beta subunits to undergo structural changes. This leads to the beta subunits binding ATP and ADP with differing strengths. The interconversion of these states, and hence the continuous production of ATP, occurs as the g subunit rotates. (Courtesy: John Walker: 1977 Chemistry)

How does this relate to bigger anterior calves you ask? It's elementary Watson! The denser the mitochondria in the anterior calf is, the greater the endurance this region has, and the more properties for growth the slow-twitch fibers take on!

If you want to hypertrophy slow twitch fibers, it is my belief you have to increase their endurance properties to receive continuous gains! Simply put the greater mitochondrial density you have the more ATP production you are capable of!

Mitochondrial biogenesis is the process in which mitochondrial count is increased in the cell, or the process of how mitochondria are formed and maintained. In other words, mitochondrial density is increased. This desired process is called "rational hypertrophy". This occurs when the total number of mitochondria also increases as the existing mitochondria get bigger.

The opposite, of course, is called "irrational hypertrophy". The central characteristic of this kind of growth is cells that contain larger mitochondria than before, but fewer of them. The net result is an ATP shortage in the cell. This will ultimately lead to plateaus (see [Muscle Fibers Part Three](#)).

If an ample supply of ATP is not being produced then a horde of cellular processes will slow down resulting in the operations of the cell being severely compromised. That means, among other things, slower removal of waste products, slower recovery from training, and slower or less protein synthesis!

(As you may know, creatine supplementation increases **your ability** to provide longer, stronger muscular contractions, which run off of ATP, see [Creatine Myths and Facts](#) .)

With slow-twitch fibers making up a large portion of the lower leg, it is no doubt we will be seeking sadistic pumps, barbaric intensity, hardcore shocks, and more volume for this region than you are accustomed too!

All skeletal muscle fibers are not alike in structure or function. For example, skeletal muscle fibers vary in color depending on their content of myoglobin (myoglobin stores oxygen until needed by mitochondria). Skeletal muscle fibers contract with different velocities, depending on their ability to split Adenosine Triphosphate (ATP). Faster contracting fibers have greater ability to split ATP. Moreover, skeletal muscle fibers differ with respect to the metabolic processes they use to generate ATP. They also differ in terms of the onset of fatigue. On the basis of various structural and functional characteristics, skeletal muscle fibers are classified into three basic types: Type I fibers, Type II B fibers and type II A fibers.

Type I Fibers

These fibers, also called slow twitch or slow oxidative fibers, contain large amounts of myoglobin, many mitochondria and many blood capillaries. Type I fibers are red, split ATP at a slow rate, have a slow contraction velocity, very resistant to fatigue and have a high capacity to generate ATP by oxidative metabolic processes. These fibers also make up a large portion of the anterior lower leg.

Protocol

During the next 8 training sessions, utilization of the prioritization principle will be paramount.

I recommend the following scenarios:

1. Anterior leg training is the primary importance over the next 8 weeks.
2. Whether you utilize a 5 or 7 day split, AM/PM split training (see [Hippocrates - Was He Hardcore?](#)), or another split variation, always train with these workouts first when you enter the gym.

I recommend a separate day just for lower leg training, consisting both of posterior and anterior training; In which case anterior training would come first in such a session. This is an excellent approach as it allows you to train opposing body parts, and increase mitochondrial density! (see [Static Strips and Opposite Body part Super setting](#))

Another excellent protocol utilizing this same format would be a lower leg day utilizing an AM/PM split, in which the anterior lower leg was trained in the AM, while the posterior lower leg was trained in the PM. This would allow for maximal intensity, and higher energy levels.

Heavy stretching this area is also recommended! (see [Can You Use The Muscle Memory Phenomenon, Without Ever Having The Muscle!?](#))

Phase One:

Tibialis Torture

Exercise one:

Old School Tibialis Curls- 5 sets

You are going to get addicted to this exercise! It is by far, one of most extreme movements for frontal leg! Also, so far as I know, I invented it, so I get dibs on the name!

Begin by positioning yourself in a leg extension machine, in the same manner you would as if you were going to begin a set of extensions.

Adjust the leg extension machine so that the center of the knee joint is aligned with the axis of rotation of the machine. Sit on the machine with the lower back against

the backrest and the shins against the ankle pads. Bend both legs to a 90 degree angle.

The principal piece of equipment on the machine for this movement is the ankle pad. It must be one that will rotate around the bar, such as in this example:



Begin by selecting a weight. Once you have placed your shins against the ankle pad, begin to Dorsi Flex your foot. As you Dorsi flex, invert your foot at the point of peak contraction at the top of the extent of motion. Now, allow the pad to roll all the way down your foot as you plantar flex your foot to its maximum lower range of motion.

You will feel a tremendous burn in your tibialis anterior within a few reps!

My personal favorite technique for this exercise is using the "Don't stop 'till you drop" descending rep method!

"This variation of the descending set will test your pain margins to the limit! In fact pain is all that will guide you with this one. Don't think about reps or how many drops you are going to do. Just go until you can't take it anymore. The further you go into hell the more gains you will get.

This is ultra effective for the calves and forearms. In fact, I've gone weeks without even counting reps for these two groups. I just go by how much pain I felt the previous workout and know that I will go further in my current one! This type of training gives you a certain mindset that will build you a great physique! I like it because it allows you to focus completely on the pain zone, and not distracting your mind with counting any reps, sets, drops, just more intensity than you've ever had before." (Taken from Shock Yourself out of the Comfort Zone Part Two)

Exercise two:

Reverse donkey calf raise Machine- 3 sets.

Another excellent exercise for the frontal calf region is reverse donkey calf raises.

The theme of the variation of this exercise is to place the heels of your feet, where your toes would normally be fixed.

Upon dorsiflexing your foot in this position you will place maximal stress on the anterior calf muscles.

I recommend using a wide variety of foot positioning to better target the different muscle groupings of the frontal calves.

Exercise 3:Free-Hand Standing Reverse calf raises- 3 sets

Do not let the name fool you here. This is going to require total mental effort, as you attempt to balance your body with your forefront calf muscles!

Begin by placing a calf block (I also recommend alternating between types of calf platforms as much as possible! For example flat blocks, curved blocks, Plates stacked up, etc. Different surfaces stimulate the muscles differently!) between a squat rack or near a wall.

Attempt to perform standing reverse calf raises, without the use of outside stability! In other words, no hands!

I do recommend doing these between a squat rack or near a wall, so that if needed and you lose balance, you can support yourself without having to totally stop the set. Continue doing reps, even if you have to use the wall. Once you feel you've regained your balance, let go again and continue free-handed. Finish the set off with partial reps to enhance the blood pump.

Free hand types of movements are excellent for balance and shocking the muscles!

If you want to take this exercise to the next level, superset free-handed calf raises with standing calf raises or toe presses! The lower leg pump will be off the chart! This is very similar to a tricep/bicep superset! Opposing superset have also been shown to increase mitochondrial density!

Phase Two:**Lower Leg Laceration!****Exercise One:**Reverse Barbell calf raise- 3 sets

Reverse barbell calf raises are probably the number one mass builder of the lower leg. When done in the reverse position, they will place maximal strain on the anterior muscles. Keeping constant tension on this area is the key to continual growth.

Begin by placing a barbell on a power rack at upper chest height and the calf block under barbell. Position the back of your shoulders under the barbell with both hands to your sides. Position your heels on forward edge of calf block. Lean the barbell against the rack and raise it from the safety supports.

Support the barbell against the vertical bars. This will allow you to concentrate on power instead of balance.

Now perform reverse barbell calf raises. I suggest one to two seconds of static contraction at the peak of the movement.

Be sure to really drive your foot up as you dorsiflex. Strive for power during this exercise.

Exercise Two:

Hack squat machine reverse calf raise- 3 sets

Here we are going to effectively target the region at a unique angle.

The hack squat calf raises are incredible for building up the posterior leg! No doubt the same comparison can be made for the anterior leg in reverse hack raises!

Another personal favorite for a reason you will soon see, or should I say feel!

Unlike normal calf raises on the hack machine, you will face forward similar to performing standard hack squats.

Adjust the foot plate to your desired positioning. The exercise can be harder by adjusting the foot plate below the standard 90 degree angle.

To execute this movement begin by placing your heels on the edge of the calf placement platform. Next, unlatch the safety hooks and complete a strict set of reverse calf raises to failure.

Now comes the fun part...at failure, you can begin cheating by shrugging on the shoulder pads! Similar to Hack machine hiss squats you can effectively cheat on the positive motion of this exercise by simply shrugging as you plantar flex your foot!

You will begin feeling a burn that will sear through your body like liquid fire! But don't stop! This is where you should begin counting reps! Similar to forearms, the

anterior legs are slow twitch dominated, meaning they can take a lickin' and keep on tickin'! So give them a beating they won't soon forget!

Exercise 3:

Reverse heel press- 3 sets

Reverse heel presses are superb for focusing on peak contraction of the tibialis anterior.

This action will target the area right below the knee that creates the vital frontal calf sweep.



Utilizing a leg press machine, begin by placing the seat away from the foot platform. Place your feet high on the foot pad, keeping your knees straight.

Plantar flex your fore-foot back toward your body as far as possible while pushing the platform with you heels.

I recommend utilizing the static strip set principle with this third exercise, in the range of 30-70 seconds per strip set.

Exercise Four-

Seated Reverse Calf Raise- 3 sets

The finishing movement in phase 2 will utilize the seated calf raise station.

This action will be similar to seated calf raises. The alteration will occur with foot positioning. Place your heels, on the toe plate where your toes would normally be fixed.

Adjust the pad accordingly, to allow for a complete range of motion. From there, plantar flex your foot to the top of the muscles range of motion, and descend back down, emphasizing the negative extremely hard.

This exercise provides an enhanced stretch at the bottom of the range of motion.

As President Wilson has shown with multiple research sources, *"working a muscle in its lengthened position will 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."*

I liken this exercise to the preacher curl of frontal calves. Treat it as such and do not withhold stressing the stretch the bottom of this exercise offers.

Phase Three:

Plantar Flex Pounding!

Exercise One:

Smith machine reverse calf raise- 3 sets

This can be alternated with any standing calf machine your gym offers. I prefer the smith machine, as it provides a natural motion in which to enhance plantar flexing.

As you drive up, watch your anterior calves closely in the mirror. Try alternating foot positing (see above) and observe how various angles affect different sections of your frontal calves.

Once failure has been achieved, use rest-pause to finish the complex off, medieval style! This is also a great movement to expose your calves to the 60 seconds shock!

Exercise Two:

Single Leg Reverse Calf Raises supersetted with both Legs Reverse Calf Raises- 4 sets

Here we will be working each leg independently to blast the fore-calf zone.

We have all experienced the extreme shock one arm barbell curls and one arm shoulder presses place on our frame. This protocol provides the same stun to our system! Only we will take it one step further.

Grasp a dumbbell in one hand and allow it to hang to your side while positioning one heel on the forward edge of platform. Clutch a support beam or wall with the other hand to maintain equilibrium. The hand with the added resistance should be on the same side as the leg you are working. Lift the non working leg back by bending the knee for better balance.

I also recommend using an unconventional calf platform for this exercise. For example, you could use plates stacked up, the edge of your stairs, etc. You can vary it even more by doing the exercise with shoes, without shoes, with tennis shoes, with weight lifting shoes.

A well-rounded general shocking method is to constantly switch the type of foot platform you utilize during all your lower leg training.

Once you are in position, pull the forefoot up toward your body as far as is possible. Return again, by extending your foot until your toes are pointed downward. Continue with the opposite leg.

After exhaustion with both legs, set down the added resistance, and continue doing standard reverse calf raises, this time using both legs.

Begin two of the sets with your right leg, and two with your left leg.

This superset will chisel lines in your calves. You're going to love the results! Hang in there; we have one more brutal exercise left...

Exercise 3:

Reverse Donkey Calf Raises- 3 sets

Take a few minutes between exercise two and three, as you will have to muster all your remaining mental power to execute this movement.

As you no doubt discovered in Phase one, Reverse Donkey Calf Raises, are not for the faint of heart.

We are now going to pick the intensity up a notch and traumatize the tibialis anterior with a barbaric shock technique that would make Conan cringe.

The 21 method is world renowned for supplying the bicep perimeter with massive amounts of blood soaked pumps.

This same principle can be directly applied to the lower leg region! As will be the procedure with exercise three.

Position yourself in the same manner as exercise 2, in phase one.

- Start by performing 7 deep, partial reps in the lower half of the range of motion.
- Next, perform 7 reps strongly contracted partial reps in the upper half of the range of motion.
- Finish, by performing 7 full reps.

The 21 method can be applied to many muscle groups, and in the case of lower leg work, is exceptionally vicious!

Phase Four:

Grand Finale

Phase four is going to be a lesson in pain.

We are going to be doing a spin-off of the "One day method".

This formula represents high volume that will no doubt increase the endurance capabilities of your fore calves.

You have to be mentally ready to tackle this routine, because it will literally demand a day-long war mentality.

The protocol is as follows: (At home phase)

1. As soon as you wake up, perform standing reverse calf raises to failure. If you have a calf block at your home use it for the "at home" phases. If you don't have one, the edge of a stair will work fine. Perform 3 sets.
2. Repeat Mid-day
3. Repeat Right before Bed

At the gym:

Perform the 100 reps method using any exercise you like besides standing reverse calf raises. This technique is short, sweet, but brutally to the point.

To execute, pick a weight you would normally fail with at 25 reps. Upon failure, rest-pause until you reach 100 reps. The secret is only to rest as long as the pain is present. The instant the pain is gone proceed with the exercise again, even if it only means getting one or two reps before you have to rest-pause again.

Continue in this manner until 100 strict reps are achieved. I prefer an exercise, such as hack squat reverse calf raises, for the reason that I can cheat out additional reps as I go along. (Of course, not counting those as any of the pure 100 reps I am aiming for!)

Prepare yourself for war fellow athletes as during the next 3 phases we are going to pull out all the tricks from the bag, and perform a hardcore bout of blitz training!

Phase Five:

The 15-20-25 Method- Jacob introduced us to the sheer insanity this blitz offers in the legendary, "[8 Weeks To Bigger Biceps Two - The Legend Continues!](#) "

We are going to utilize this shock for phase five, in an effort to boldly take our anterior leg, where they have never gone before!

President Wilson describes the madness of this method in his article,

"Here we combine the strip set with the rest pause method, and place them under the heading of a repetition scheme. You see, I believe that people will fail miles short of what they were capable of while utilizing strip sets. This method allows for no mercy, you must complete the indicated number of repetitions, no matter the cost!

Begin by selecting a weight you can only lift for a maximum of 12 repetitions. Say you were doing dumbbell curls. You would fail on the 12th rep, and set the weight on your knees. Rest pause a few seconds, and then eek out the final three repetitions. Without hesitation, strip the weight down. I prefer 10 pounds per dumbbell, but essentially you will choose a weight that you can normally get 15 repetitions with. Once you strip the weight, you will get as many repetitions as possible, before rest pausing. Normally after a strip set, you'll barely be able to get

6 reps before failing, the lactic acid build up is just too great! However, you must, and I repeat must rest pause out 20 repetitions, I don't care how many rest pause intervals are used! Lower the weight again, by 10 pounds per dumbbell and use the rest pause method to get 25 repetitions. At the end of the set you will be destroyed, in agony and drenched in sweat!

What I normally do is select weights that allow me, when fresh to get the prescribed amount of reps for the given amount of weight. However, it's obvious that you will be seriously fatigued, making rest pause sets that much harder!

Again, going back to dumbbell curls. If you can lift 50 pounds in each arm for 12 strict repetitions, then choose it for the first set. If you can then lift 40 pounds for 15 reps when fresh, then choose it for your second weight, and finally choose 30 for the last set.

It would look like this

- *50 pounds caused failure at 12 reps, then you rest paused once which allowed 3 additional reps*
- *You would then strip the weight down to 40 pounds and reach failure. Due to fatigue this may take place after 6 reps. Utilize the rest pause method, which would allow you to reach 15 reps before failure again. Then rest pause one more time and reach 20 repetitions*
- *Strip down to the 30's only this time you must rest pause out 25 repetitions!*

Try that on any exercise and I guarantee growth! It forces you to reach a level of proficiency, rather than just thinking that you reached that level."

As you can see, this approach is not for the average gym goer, but to go one step further and apply it to the frontal lower legs, ranks us in the elite of the body building world!

In this example, Jacob gives a demonstration on how to use this shock on biceps with the dumbbell curl. I recommend utilizing an exercise that you can use a descent amount a load with, as to fully incorporate the necessary stripping of weight. Reverse barbell calf raises, or Old School toe curls, would be two prime choices.

Phase Six and Seven:

Zane Blitz- During phase six, of our "blitz session" you will incorporate the Zane blitz technique. Disgustingly hardcore is not even revolting enough to do justice to the description this method entails. That's why you're going to do it, and like it soldier!

Here Jacob describes this method in his incredible article, "[Hippocrates - Was He Hardcore?](#)", one of his many masterpieces!

"Zane's Purpose: To bring a body part which lags behind others up as quickly as possible

Method: Two Week's of pure, endless bombardment of the target muscle group

Steps

- 1. Choose specified body part*
- 2. On Day One Train the muscle with a total of 25 sets*
- 3. On Day Two Train the muscle with a total of 15 sets*
- 4. On Day Three Train the muscle with a total of 10 sets*
- 5. Rest On Day Four, you know the drill - Catch up with past issues of Hyperplasia Magazine*
- 6. On Day Five Train the muscle with a total of 25 sets*
- 7. On Day Six Train the muscle with a total of 4 sets*
- 8. Rest Two Days*
- 9. Repeat Seven Day Cycle Once More*

The man was the three time world champion! After this split it would be a good idea to taper a few days. I prefer to split this into five different exercises when utilizing 15-25 sets. Thus, on 25 I would perform 5 Xs 5, where as with 15 I would perform 3 Xs 5. When utilizing 10 sets, three exercises will be sufficient at 4, 4, and 3 respectively. Finally, 1-2 exercises will do on day seven.

The advantage here is that it gives you an opportunity to hit every aspect of the muscle. Take legs for example. You can do numerous varieties of squats, and even use the abductor machine, which in my opinion is the most underestimated mass exercise on the market."

I never said these 8 phases were going to be easy. I won't lie; this is going to take blood and guts to complete. This is easily "overtraining" to the average gym observer.

That is why you must laugh at what others call, too hard, roll up your sleeves, and let the results of your efforts shut the mouths of the critics. Those same critics will undoubtedly, be the same gym goers, who year after year, making little if any changes in the gym because they refuse to push themselves to their physical potential. (see [Shock Yourself Out Of The Comfort Zone 3](#))

Show yourself how bad you want freaky lower legs, and don't compromise until you achieve that dream!!!

Phase Eight:

Austrian Blitz- You probably saw this coming! But what a way to finish the job!

Anyone who has had the testicular fortitude to tackle this favorite training technique of the Austrian Oak can testify to the mind boggling results that it has brought.

[The Austrian Blitz](#) is without a doubt a hurricane that leaves no survivors in the path of its destruction. Simply pick a basic compound exercise, and blast your lower leg into muscle annihilation!

Nanotechnology

ATP is a first-rate example of irreducible complexity because it is essential in its entirety in order for even the simplest form of life to live. This ever-present molecule has a wide array of tasks, including building complex molecules, contracting muscles, and generating electricity in nerves (see [Supplement Review - Calcium](#)).

Each of our quadrillions of ATP motors produces no less than 18,000 ATP molecule per minute, over 1 million per hour, and some 26 million per day; less when resting, more when working hard.

As the requirement for energy increases, the flow of protons through the wheel increases, so turning the wheel faster and increasing the manufacturing of the energy-giving ATP.

There are an estimated 100,000 complex macromolecule machines used in humans.

Currently there are only four basic ways of producing ATP:

- in bacterial cell walls
- in the cytoplasm by photosynthesis
- in chloroplasts
- and in **mitochondria**

According to the concept of irreducible complexity, these ATP producing machinery must have been manufactured totally complete and as functioning units.

Anything less than an entire ATP molecule, and it will not function; just as a manufacturing plant which is less than complete cannot produce a functioning product.

In retrospect, our physiques resemble such a pattern. Anything less than a symmetrical physique and the physique can be rendered, incomplete on body building terms.

Design is prevalent....from the ATP molecule, to our body's build. A Creator's "hand" is evident.

We design our physiques to fit our mind's eye perception of what the perfect body resembles. It is irreducibly complex in our third eye.

Will and design go hand-in-hand. Where there is no will, there is no design. Such is the case with irreducibly complex features, both in nature and our bodies.

Romans 1:20 For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead; so that they are without excuse:

Only your will can design the complex structure of the anterior lower leg.

God Speed Fellow Warriors!

Old School,

oldschoolabcbbing@gmail.com

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