WHEELS OF FORTUNE

FORGING PERFECT LEGS THROUGH *SCIENCE AND SAVAGERY*

BY SEAN JONES

Impressive leg development is the one characteristic that separates a true athlete from a typical meat-head with a room temperature IQ. At best, most trainees have sub-par leg development, especially when the legs in question belong to a male with an impressive upper body. I will address as much science as needed, but make no mistake, the "secret" behind the most efficacious leg routines is savagery. Effective leg training requires desire, discipline and fortitude to repeatedly bombard your body with brutality. That being said, if you're looking for some 7 minute voodoo that would transform you into an action figure, you should stop reading, immediately.

Squats are unchallenged for evoking development and power in the lower body, however, this regimen is designed to maximize the efficacy of the squat via pre-exhaustion of targeted muscles and shock your legs in such a way that they have no choice BUT to respond. You will be armed with the knowledge you need to develop exceptional legs. The intensity part is up to you.

So let's get started. We begin with hamstrings. Understanding the mechanical functions of a body part or muscle group is the first step towards effectively training it. This rule is PARTICULARLY true for the hamstring muscle group. The most popular misconception regarding hamstring training is the the one most responsible for sub-par hamstring development in trainees seeking to acquire the coveted lower body excellence that seems to the finishing touch of the quintessential "perfect body." The misconception to which I refer is the one regarding REPETITIONS. More often than not, trainees use loads that apply FAR too little tension to the hamstrings. Hamstrings are designed for high velocity movement in animals and thus are predominantly white, FAST TWITCH fibers. These fibers are designed for high intensity thresholds and low duration activity. That being said, your 20 rep sets were as useful as a tank top in Antarctica. At 15-20 reps for hamstrings, you're using approx 50-55% of your one rep max. A load far too insignificant to foster a hypertrophy response. Hamstrings are designed for POWER and

thus require loads of about 70-75 percent of your one rep maximum. Due to the low duration capacity of this physiology, hamstrings lack the ability for highly repetitive tasks. An optimal rep range for hams would be about (brace yourself) 6 to 8 repetitions. The hamstrings are actually a combination of three muscles that work in a synergistic manner to actuate knee and trunk flexion. Hamstrings are comprised of Semimembranosus, the Semitendinosus and the biceps femoris. The Semimembranosus and the Semitendinosus are often referred to ad the "medial hamstrings" or "medial head" of the hamstrings. They cross both the hip AND the knee joint, so they serve to generate hip extension and knee flexion. They also play a key roll in medial rotation (turning IN) of the knee. This function is one of the reasons why doing dumbbell leg curls (leg curls with a single dumbbell held between the feet)gives a unique and vastly effective stimulus to the hamstrings.As the name of the muscle implies, the BICEPS Femoris consists of two heads. Similar to the biceps of the arm, this group consists of a long and a short head. The long head crosses both the hip and the knee joint and thus assists in extending the hip and knee flexion. The short head only crosses the knee joint and is only involved in the latter function. BOTH heads are involved in lateral rotation of the foot (turning the toes OUTWARD). As with any body part, to maximally stimulate the hamstring complex, you should endeavor to include multiple primary functions in your training protocol.

Most individuals tend to be significantly stronger in leg curling motions when the ankle is flexed and toes are pulled toward the chin. Pointing the toes make leg curls more difficult. I suggest pointing the toes for as many reps as you can execute and squeeze out a few more reps by pulling the toes up for your concentric phase of the rep and pointing the toes for the negative phase of the rep. You will find that your range of motion will be compromised when you use heavy weights. Having tight quadriceps will accentuate this hindrance. I avidly encourage trainees to intensely stretch the quads before and during hamstring work. You will find that only 10-30 seconds of quad stretching will vastly increase their range of motion and thus hamstring contractile force. This rule generally applies to your overall physiology. Stretching the antagonist of a working muscle will enable a greater range of motion and motor unit activation, when you perform movements for the targeted body part.

One major issue that SHOULD be addressed is the fact that people rely on body parts hierarchically to perform tasks. Disparities in strength between left and right, front and back will always lead to cumulative imbalances and dysfunction in your physiology, particularly in regards to alignment issues. Ironically this issue is more prominent in athletes, because of the repetitive nature of specific athletic activities. It is not uncommon to encounter one leg of an athlete that's 20% weaker than the other. This is a fairly common occurrence in hamstring muscles. The dominant leg is not necessarily the leg you're more comfortable using, nor does it necessarily correlate with similar dominant/non dominant issues with the arms and hands. Make a point of doing iso-lateral hamstring movements and endeavor to keep variables such as sets, reps and loads identical for right

and left leg. I often include a few sets of standing leg curls or single leg seated or lying leg curls. On single leg lying leg curl, I place the dormant leg on the floor and thus, out of the way. Make sure you lean the torso forward and maintain this position during standing leg curls, so that the leg is fully extended prior to each rep.

Many athletic tasks involve a co-contraction of the glutes and hamstrings. A perfect "posterior" displays superbly developed and symmetrical hamstrings and glutes. Hamstrings are connected as a chain to the glutes and erector spinae muscles. You should implement the hip extension function in your hamstring assault. Stiff legged deadlifts, semi-stiff legged deadlifts (Romanian Deadlifts) good mornings, reverse hyperextensions and glute-ham stretches are excellent choices for hip extension movements. One very effective method of adding resistance in the glute-ham stretches is holding one end of a resistance band and having your partner hold the other end and stand away from you, far enough so that a stretch is felt prior to the start of the movement. Make sure your partner is firmly planted before you begin. Have them grab onto something that will not create a catapult when you fire those hamstrings.

Without getting into detailed anatomy and physiology of glutes, I'll state some fundamentals. The gluteus maximus is the largest and most powerful skeletal muscle of the human body. Located in the buttocks, they are connected to the coccyx and other surrounding bones. this powerhouse moves the hip and thigh. In the 80s and 90s, many exercise equipment companies, sought to create the ultimate butt builder. These devices had you kneel in a prone position and push a pedal back in an upward kicking motion, often leading to a painful and unnatural hyperextension of the spine. Surprisingly, NOTHING has been shown to be as effective for the glutes as good, ole fashion squats. If you're not getting stellar glute development from squats, the likely culprit is your range of motion. One priceless movement I've customized over the years is a glute-isolating abductor movement on the thigh abductor machine. I have the trainee place the center of their foot on the pedal that allows the knee to be bent at 90 degrees. Then they squat off the seat and press the lower back against the backrest. The arms stay folded so the urge to engage any inertia or instinctive self-spotting is eliminated. Doing a few sets of these prior to your stiff-legged deadlifts and squats will quickly give you noticeable improvement in posterior development. I've coached several power lifters in this movement and the end result (no pun intended) was record breaking deadlifts. No sur-

prise, considering the fact that the glutes play a major roll in this movement, from start to finish. This is why I enthusiastically urge trainees to deliberately contract the glutes EARLY in the ascent for deadlifts for back training AND for hamstring training. Same rule applies to squat. You will quickly become a competent squatter if you envision the movement as primarily a hip thrust. The glutes are requisite for a complete, well proportioned and functional phisiology, so don't make an ass of yourself by not training glutes!!

You'll notice that working the hamstrings and glutes prior to training the quadriceps, will get the knees and spine warmed up and your nervous system will be acclimated and ready for the safe execution of multi-joint, compound movements.

Imposing new and unusual tension is the key to initiating and perpetuating progress with ANY mechanism in the body. "NEW" is the essential ingredient for muscle development. Obviously you can alter many variables such as rep and set protocols and even tempo to keep muscles out of a comfort zone. One immensely effective (and often neglected) way to shock a muscle is to change the resistance curve of a specific movement. Here's a perfect example; In the standing leg curl, you build resistance at the top of the movement, much like you do in a concentration curl for the bicep. If you emphasize contraction vs weight in a leg extension, you will notice this peak contraction at the TOP of the movement when you squeeze and deliberately contract the quadriceps. Conversely, in a squat, There is significant fall off in tension at the completion of the movement and the same physics applies to the leg press. Anyone who has subjected themselves to deep, full range squatting will enthusiastically confirm that the "fire zone" of the squat is at the bottom of the movement, otherwise known as "the hole." That being said, a great way to shock the legs with these compound movements would be to impose increased loads at the top portion of the lift. This can be accomplished by adding hanging chains to either side of a barbell when you squat, so that the weight ascends as the links of the chain leave the floor. Obviously this is good ole fashion GRAVITY working it's magic. The squat is and always was the king of lower body exercises, however, since this is neither a "HOW TO SQUAT" nor a "squats are great" article, I decided to prioritize on a plethora of methods that supplement the squat and deliver maximum efficacy in minimum time. The leg press is a great supplement to the squat and should not be used as a substitute for squats over extended periods of time, unless injury or some other physiological precludes squatting. For leg presses, I suggest attaching resistance bands to the horns (where you place the weights) and to any stationary metal near the racking mechanism. Make sure you wrap it tightly enough so that there is a significant increase in tension as you extend the leg and that it doesn't slip off and sling shot your workout partner into the wall in front of you.

Interestingly enough, adding tension to the top of compound movements for the quads tends to facilitate overload in the vastus lateralis (outer head of the quads). Discernibly this effect would manifest itself in creating the coveted "sweep" that separates

extraordinary
legs from "everyone else." Elevating your heels on a board or small plates (the size of which depends on your individual mobility and limb lengths)and keeping your feet narrower than shoulder width and focusing on continuous tension intensifies the shock on your legs. Done properly, it can also facilitate noises and facial expressions that would scare gym members away, so don't expect to be a social but-

terfly that day. One thing I'm compelled to address is the debate about knees traveling over the toes. I'll put this to rest very quickly. You are designed to squat and the physiology of the human animal is designed so that the legs press against the abdominal wall and assist the transit of waste matter through the complex structure of the bowels. This position is the one nature intended for defecation and it unless our ancestors moved their bowels with their backs against trees, it is inevitable to achieve this NATURAL position without the knees traveling over your toes. End of story.

To emphasize the outer quads when you do leg extensions, put the backrest far from the pivot point (your knees)and lean back, away from your thighs. As you extend the legs, pull the foot toward the shins (dorsiflex) and accentuate deliberate contraction at the top, as though you were flexing for a photograph. If you have trouble achieving the ideal mind to muscle connection (a problem prevalent in gyms) consider doing a few sets of one legged extensions FIRST and then commencing your big assault on your legs. To emphasize the vastus medialis (the medial head that looks like a tear drop) or inner quadriceps, plantarflex the ankle (point the feet down) and rotate the feet out. If you lean forward, into the legs, you intensify this effect.

Developing anything is emergent and never limiting, so the process of training muscles is not limited to any select group of movements. One somewhat forgotten gem I feel compelled to mention is the sissy squat.

Just so we are clear, the Sissy Squat was given it's name because of the legend of SISYPHUS. The king of Corinth, condemned by Zeus to Tartarus and given a futile task of carrying a rock up a mountain. The rock was never to reach the top and Sisyphus would have to restart his journey. Many depictions showing Sisyphus, depict him with VERY impressive quads. Back to science, This movement is designed to isolate and develop the quadriceps. The movement allows you to overload the quads in a hyper-stretched position. A characteristic many attribute to creating superbly defined muscle. Sissy squats minimizes involvement from co-contraction in the hamstrings, glutes and lower back and allows you to either per-exhaust your legs before you squat and/or leg press. You can also use sissy squats as a finisher, after legs, if you're going for a burn AFTER the bombs. You may wish to elevate your heels on a block or plates when you do these or manually engage the calves and and plantarflex to keep the heels off the floor for the duration of the movement. The one command I most frequently repeat during these is "straight line." Referring to the straight line from head to knee, required to maximally recruit the quadriceps and restricting the posterior-chain muscles to serve only as stabilizers. Your core assists as a stabilizer as well. Tighten the glutes throughout the movement and initiate the movement by thrusting with the hip. If you feel vulgar, you're probably doing it right. Resist the urge to shorten your range of motion on these. When you're fully warmed up and after an acclamation set, just to get you in the groove, strive for full range movements. Drive the knees down toward the floor in front of you. Tighten the butt and send the torso down to the floor as if you were doing a limbo.

You can do sissy squats by holding on to a bar in front of you, set at around waist height. Like a Smith machine bar. You can hold two objects at the sides of you like a doorway. You can hold a weight (plate) across the chest and use your free hand to grasp a stationary object for support. Please note that the definition of "stationary" is IMMOBILE. What is NOT stationary is that wooden pole that leads to thou-

sands of gym fails around the globe every day. Your friend's hand is NOT stationary. If you do these right, you will begin to feel an intense burn within seconds. To increase your time under tension (the true "secret" of muscle growth) accentuate the negative portion of the movement. Take a deep breath at the top portion of the movement and count your reps in the hole. This seems to subconsciously engage the neural linkage as you lower yourself to the floor. DO NOT lock the knees at the top. Do these properly and they will prove to be vastly superior to anything for quad isolation. Strive for progressive increases in repetitions with these. Adding a single rep to every set with good form, on a weekly basis is enough to give you significant results. Again, angle variations is key to symmetry. Anyone who's trained with me knows I'm an advocate of angle diversity. Let the knees follow the toes. Fry those tear drops by including some sets with your heels together and your toes pointed out. A slightly pigeon toed setting would target the sweep. Try supersetting these with a 20-30 second wall sit, with your legs bent at 90 degrees and your toes raised an inch or two off the floor. You probably should not do these in a gym that requires you to internalize your lamentations. Keep your arms folded and away from your thighs and focus on deep breathing. This is isometric contraction at work, so be ready for an intense burn and an involuntary date with the floor.

Now that you're equipped with the tools, here are some ways you can incorporate them into an effective assault on your wheels.

SO LET'S PUT IT ALL TOGETHER:

STANDARD HYPEREXTENSION 20-25 REPS:

One set to warm up the erector spinae, hamstrings and glutes. Initiating your heavy workouts with these will substantially increase your core rigidity and stability, so don't skip them.

For the first week, do only 2 sets of each movement or combination of movements outlined.

Standing leg curls:

Full range movements on these and maintain a forward lean of the torso to accentuate the extension of the leg on each rep.

Emphasize full contraction at the top and hold the contracted position for a second before lowering.

2 sets to failure (at no more than 9 reps)

DUMBBELL LEG CURL:

Unmatched for creating a sensation a flammable substances being burned at the back of the leg.

You can intensify the resistance at the upper 1/3 of the movement by inclining the bench you lay on, so that your head is higher than your knees. You can lay on a decline bench with your head at the upper end of the bench. Changing the angle of the bench will vastly alter the resistance curve

Have a dumbbell handed to you so you don't expend energy trying to grab the dumbbell off the floor and looking like a worm on crystal meth in the process.

3 sets to failure (at no more than 9 reps) with partials at the end of each set.

STIFF LEGGED OR SEMI STIFF LEGGED DEADLIFTS:

You can use dumbbells or a barbell for these

Elevate yourself on plates to increase your range of motion, providing you have the required stability, mobility and flexibility to safely do so.

You also have the option of elevating your toes on plates to intensify the stretch at the bottom.

Resist the urge to look in the mirror at the bottom of the movement. Let the head follow your torso, so that you maintain a rigid and neutral cervical and thoracic spine. Visualize a line drawn from the back of your head to your tail bone. That line should TOUCH the back of your head, between your shoulder blades (your scapula adductors

Think of these as a hip thrust, emphasizing driving the hips and butt BACK and squeezing the butt not just WHEN you ascend but AS you ascend. Endeavor to squeeze the glutes at the top without fully straightening the torso. If you look like you're posing for PLAYBOY, you're probably doing it right.

3 sets to failure, holding a glute contraction for 5 seconds at the top of the last rep of every set.

GLUTE-HAM STRETCHES:

If I do these, I may omit a set or two from other movements or omit one of the aforementioned movements entirely. If your facility is not equipped with an apparatus specifically designed for these, there

are numerous innovative ways to improvise. One such way is simply using the hyperextension bench and pivoting from the knee instead of the hip and maintaining a consistent angle in the entire spine throughout the movement.
If you elevate the end of the apparatus at the end nearest the feet, you will dramatically increase the load. Remember, in this game, think of gravity as your best friend.
I'm a big advocate of using resistance bands as I've outlined previously.
3 sets of 6-9 reps.

THIGH ABDUCTORS (MODIFIED):
The butt NEVER touches the seat. Tailbone is against the backrest and your torso is leaning forward throughout the execution of your set.
3-4 sets of 8-20 reps

STRETCH THE HAMS AND GLUTES FOR 3-5 MINUTES.

LEG EXTENSIONS 20-25 REPS TO WARM UP:
Toe/foot angle on these depends on where you need specialization, not "what feels good" or your favorite part of the quadriceps. Addresses imbalances when you prioritize. It goes without saying that it would be highly impractical to do all your sets with toes out if you have the thigh sweep of a greyhound.
4-5 sets supersetted with sissy squats followed by wall sits (20-30 seconds) Both of these were previously described.

SQUATS WITH CHAINS:
Again, if you lack sweep, emphasize a narrow stance with toes pointed straight ahead and continuous tension.
Include at least one set with a stance wider than shoulder width.
Again, when I saw "squat" I mean SQUAT. Not a "leg shrug." That means FULL squats!
4 sets of 8-20 reps (Good Luck)

BANDED LEG PRESSES:
These are a great finisher for the legs
The shift in resistance curve attained by adding tension at the top of the movement, due to the force imposed by the by the drastic linear stretch. Quality resistance bands are hyperelastic and should be tightly attached, so that tension rapidly increases as you extend the leg. The elitefts™ Pro Strong Bands are 41" long, 4.5mm thick, 2 ½" wide, and have 15 layers of latex. One of these tightly wrapped on each side of a leg press will change your life (and come close to ending it in the process)
3-4 sets of 8-20 reps

Do NOT attempt to walk immediately after your sets.
Minimum 5-10 minutes intense stretching.

NOTE: There is extreme urgency for nutrients during this catabolic state. Put the phone down, no socializing..Your macro nutrients are as important as AIR at this point.

The frequency with which you do this workout is largely dependent on the recovery of your muscles AND your nervous system. Brutal intensity can be immunosuppressive, so be sure to be regimental with your nutrient intake and rest. I'm excited about your progress.

CHEERS!
Sean Jones