

the

# Crossfit

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## JOURNAL

April 2006



### Got Rings? Now What?

- Roger Harrell

Because of constant pestering from the CrossFit community, you have now acquired a pair of rings. So, now what? You know what a muscle-up is, maybe you can do some dips on the things, but there's got to be more, right? Absolutely! A pair of rings has limitless possibilities for training. Common exercises take on a whole new dimension when performed on the rings, and many ring exercises can be performed nowhere else.

#### Ring rows

A ring row is an excellent beginner drill to progress an individual toward pull-ups. Start with the rings at just above shoulder height. Grab the rings and lean back until your arms are straight, to place tension on the straps. Keep your body straight and tight and pull your shoulders to the rings. As strength increases, simply lower the rings so that your body is closer to being horizontal when you lean back.

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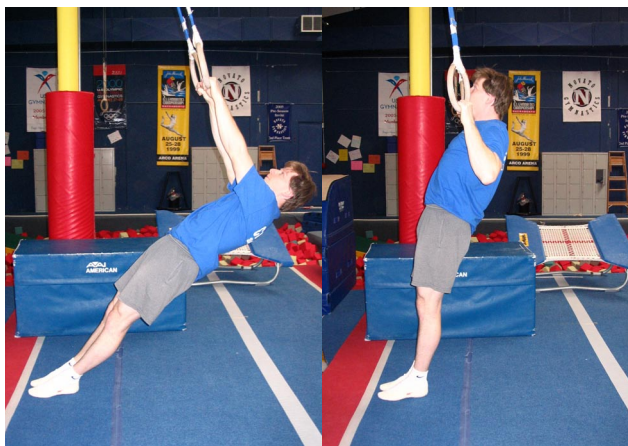
- Jesse Woody

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# Got Rings? Now What?

— Roger Harrell —

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Hang pull-through to skin the cat pull-out

A hang pull-through to skin the cat pull-out is a sequence of movements that works basically every muscle group from the mid-thigh up, while providing an excellent shoulder stretch as well. Starting in a hang and keeping your arms and legs straight, lift your toes up and back overhead, through a piked inverted hang. Then, continue to lower your toes slowly toward the floor behind you. This hanging position is called a skin the cat. At first you will want to practice this movement with the rings low enough so that you will be able to touch the floor with your feet as you lower toward the skin the cat position. This will enable you to safely get a feel for the movement. From the skin the cat position, lift your hips and pull out back through a piked inverted hang and lower to hang. Once you have some experience, you can raise the rings and lower into the skin the cat clear of the floor and then pull back out. Try to relax your shoulders at the bottom of the skin the cat to get a good stretch and truly find the bottom of your skin the cat. This skill works as an excellent part of a warm-up, or can be used in a conditioning set when done for repetitions—even if you find one or two reps easy, they add up quickly as part of a workout.



Straight-body inverted hang

Straight-body inverted hangs require balance and constant stabilization. Simply hanging upside down with your toes pointed toward the ceiling will be a challenge for many people unfamiliar with being upside down. This drill helps to develop balance and control while inverted and also strengthens the rotator cuffs due to the constant stabilization required.

Pull-ups

Pull-ups on the rings are more difficult than bar pull-ups for some, and easier for others. Some people who are unable to do pull-ups on a bar due to limited shoulder flexibility are able to do full range of motion pull-ups on rings. The freedom of movement allows the

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# Acceleration Mechanics

— Karl Geissler and John Baumann —

In our article on speed development in last month's journal we described terminology that is commonly used in discussions of the acquisition and development of sprinting skill in all athletes. One of those was acceleration, a term that has come into vogue within the last ten years in the field of high-performance personal training. Acceleration is the rate of change of velocity, and it is most often

purposefully get our bodies to a maximal velocity in an efficient manner can mean success or failure for all these people in a variety of physical arenas.

Power and mass are relevant here. For example, consider the differences between a pit bull and a greyhound. If the pit bull is going to beat a greyhound in a race, it has to have a much more

all play key roles in the starting mechanics of an athlete. The goal is to get the body moving in the desired direction with the minimal effort. Time and energy spent correcting poor mechanics and/or inefficient technique are never regained. Traditional "high-performance" models overemphasize knee lift and stride patterns. There does not need to be deliberate attention to knee lift itself. Knee



associated with the beginning of a running movement from a still position. This article discusses the notion of acceleration, steps to improve acceleration, and ways to incorporate acceleration work into your daily workout design.

When we look at the acceleration of an athlete, functionality has to be the key. Most athletes are not training to run a 100-meter dash in under ten seconds, nor should we ever think of their running goals as such. The training and movement of specialist sprinters are based on nonfunctional acceleration patterns and do not transfer well to the needs of other athletes, soldiers, or first responders, or other trainees. However, the ability to

powerful motor to accelerate its mass. It obviously does, but that is not enough for it to overcome the structural advantages demonstrated by the greyhound. Now, compare Greg Amundson to Annie Sakamoto, in the video of them doing the workout "Fran." In this instance, the pit bull-type body structure of Greg was able to overcome the perfect lines and greyhound-type structural characteristics of Annie, due largely to Greg's overall strength. Unfavorable leverages can sometimes be overcome with favorable strength levels.

## Running form

Posture, balance, and force application

lift comes from action/reaction, from a very powerful drive of the opposite leg into the ground. At no time should there be concentration on stride patterns during the acceleration. We must be concerned with functionality.

To obtain acceleration, athletes need to apply horizontal, not vertical, forces. The objective is to get the athlete moving in the direction they want to go, so why waste time worrying about movement up and down? Longer ground contact time will produce more force. Ground contact time (GCT) will go from long to short as the athlete approaches maximal speed.

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# Acceleration Mechanics

—Karl Geissler and John Baumann—

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Velocity will gradually and steadily increase from slow to fast. Olympic lifts are very similar to the above-cited components. The main difference is that, in sprinting, force is applied effectively with the body at a forty-five degree lean while running toward the intended target. The foot strikes are rigid and “full foot,” and the athlete is not pushing predominantly heel or toe first. During the first three to five steps, emphasis is placed on fast-moving arms out in front of the body. Do not concentrate on back swing. Rather, stress to your athletes that they must forcefully thrust their hands forward and slightly upward.

The body's core is essential in everything we do every day. What happens in the core relates to our posture, arm action, and leg action. Without a strong core our force production is decreased. Take a brief moment to think about the air squat: without a strong core, this exercise would be very hard to execute correctly. Functional abdominal work is key for a core that will produce a good posture for sprinting. Core strength allows the athlete to achieve and maintain hip posture that is not tilted. The hips can produce 3500 watts of power, as in a snatch lift. Ankles produce around 500 watts; compare that to a bench press, which is around 700 watts.

Balance is also a key physical trait for applying force in an acceleration pattern. Most people's notion of balance is an athlete in an unstable but stationary single support movement, such as while standing on a Bosu ball. However, our athletes need to develop a dynamic balance of explosive single support movements at seemingly awkward les. Athletes who have muscular imbalances will often have them exposed when they try to move rapidly from a stationary position. This is where Olympic lifting and even overhead squatting can help athletes to develop the strength parameters for

balanced force applications required for acceleration of the body. When the spine is strong and straight, then the joint angles will occur for favorable force expression. The importance of foundational strength, balance, and posture cannot be emphasized enough when attempting to properly move the body rapidly. The photo sequence on page 3 of Donovan Bailey shows the perfect incorporation of all these traits. He is solid in the core, has exemplary balance in each stride, and is in forceful contact with the ground. This would be the gold standard for an athlete to achieve. In the next section, we will lay some simple progressions that can be incorporated into reality-based workouts for non-specialists.

## Integration into workouts/skill training

A great deal of emphasis has been placed on good posture and the role it plays in force transference during acceleration. See the accompanying [video](#) for a series of exercises that use a number of common tools in a CrossFit gym: ball slams to the front and sides, lunge position twists with a kettlebell, and three-stage punches. These exercises are scalable to each athlete's ability.

Another exercise that assists in acceleration development is sled dragging. A commonly used technique in many sports, sled dragging is still one of the best ways to build the strength needed for good acceleration and to develop posture. The photo of the day on CrossFit.com for Sunday, March 19, 2006, showed one kind of homemade sled. You can also use kettlebells or tires and a tow strap for dragging weight. Dragging can be running, striding, or just walking with the heaviest load possible. Belts and towing apparatus are available from many sources. In a pinch, dragging straps can be made out of a towel and two pieces of rope tied to an object. Vary distance and loads for each athlete's ability, but insist that all athletes lean forward with a solid core. Encourage good posture at all times when incorporating this type of work.

Good running mechanics are a skill that can be taught and developed. Acceleration work is the same, and the body positions can be rehearsed at any time. Commonly called lean-fall-run drills, these activities give the athlete a sense of the posture and balance requirements for effective force application. The first drill is simply to tighten the core muscles and lean forward as close as possible to 45 degrees without falling. The athlete can lean against a wall or a partner. The idea is get comfortable with the notion of this radical position. The next stage is to lean until a foot naturally steps forward. Challenge each athlete to lean beyond their normal comfort zone and closer to the ideal angle. Continue to emphasize good posture and a solid core. Lastly, have the lean and fall progress into a short run. Begin by working on a lean into a forward run, but also incorporate runs that have sideways leans and runs or turns and runs. The idea is for the athlete to develop the sense of body position and to build confidence in a new sense of powerful balance.

Acceleration work does not have to be overly complicated or boring. Helping your athletes to develop a better sense of dynamic balance and single-support force application can transfer to many other skill sessions. Athletes who can drive their bodies quickly in the direction they desire will better able to respond to any external stimulus. To make them better competitors, continually challenge your athletes to develop the foundational skills rather than focusing solely on specialized ones.

***end.***

# CrossPit Basics

— Anthony Budding —

CrossPit is a blending of CrossFit with [the Pit](#), John Hackleman's mixed martial arts (MMA) and fitness training program - a blending that we believe best prepares fighters for the ring and the rest of us for general self-defense. CrossPit's efficacy comes from its simplicity. Proficiency in stance, movement, and a few basic strikes, combined with the gas to go the distance, is usually more effective on the street and in the cage than extensive training in complex martial arts sequences. The Pit's Chuck Liddell has demonstrated this at the top level of professional MMA, and amateur fighters from the Pit are regularly beating much more experienced and "highly trained" fighters.

CrossPit, like CrossFit, is a multidisciplinary approach that takes what works and discards the rest. What works is what wins fights. MMA provides a great testing ground, and the abundance of street fights posted to the Internet show what works without a referee. The same protective stance, proper movement, power to stop your opponent, and stamina to outlast him are needed in both arenas.

The problem with complex techniques and strategies is that they rarely work in a real fight. The adrenaline is too high, the timing is off, or the opponent's moves are unpredictable. Even experienced ring fighters can lose their composure in a street fight.

The main difference between CrossFit and CrossPit is that fitness itself is the sport and goal of CrossFit, and, for CrossPit, fitness is a means to better fighting and self-defense. Strength and stamina are necessary in a fight, but they are useless without the techniques to translate them into powerful strikes. Intense bag, shield, and paddle work are essential. CrossFit workouts can be measured (load  $\times$  reps/time = measurable intensity). Striking training is harder to quantify. You have to bring intensity to the workout by visualizing your attacker or opponent. In either case, you can't train mildly and expect good results.

CrossPit training offers three major advantages over most martial arts: the fundamentals can be used in any fight, real-world conditioning keeps you going, and training at high heart rates and under extreme fatigue develops situational awareness under fight conditions. It may not be glamorous, but it works.

The essence of CrossPit is readiness: being prepared for any kind of attack, and prepared to attack any opening. This preparation derives from excellence in the fundamentals: proper stance, movement, striking, and conditioning.



## Basic stance

- Lower than a traditional striking stance, higher than a grappling stance.
- Feet shoulder-width apart, one foot a normal step in front of the other.
- Shoulders squared to the opponent and raised to protect the chin, which is down.

- Back hand at chin level; front hand lower, at chest level, to block a takedown attempt.

- Weight evenly distributed between the feet.

## Basic movement

- Mirror your opponent's height (drop when he does).
- Move laterally instead of backward, especially when your opponent approaches.
- Avoid getting into a regular rhythm in your movements.

## Basic strikes (assuming a right-handed stance)



- Left Jab – A straight punch with no turn of the body. It's extremely effective on the street and used more in the octagon. It keeps the opponent at a distance and

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# CrossPit Basics

Anthony Budding

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hurts and frustrates him.

- Left Hook – Swing your hand like a rock on a rope. Start with the hips. Pivot on the front foot. Hit through the target. The degree of arm bend depends on the opponent's distance. Power matters, not hand position and angle.

- Overhand Right – Misses often but is deadly when it connects.

- Blitz – A minimum of four quick, powerful, straight punches thrown while driving forward off the back foot. It often opens up the opponent for a takedown or power shot, such as a strong overhand right, left hook, or roundhouse kick.

- Roundhouse Kick – use front foot



predominantly, and only when the opponent is moving backward. Never kick when the opponent is stationary or moving forward because he can easily grab your leg and put you on your back. Strike with the shin, not the foot. Swing the shin like a baseball bat through the target.

## Basic conditioning

- Train a wide variety of functional movements at high intensity (CrossFit).

- Do conditioning work along with bag work, either alternating between the two or doing the conditioning before hitting the bag. You must train strikes and grappling while fatigued.

- Mix it up.



John Hackleman - Haymaker

end.



# Got Rings? Now What?

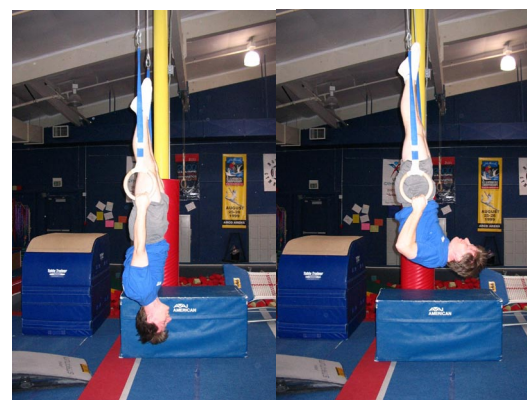
Roger Harrell

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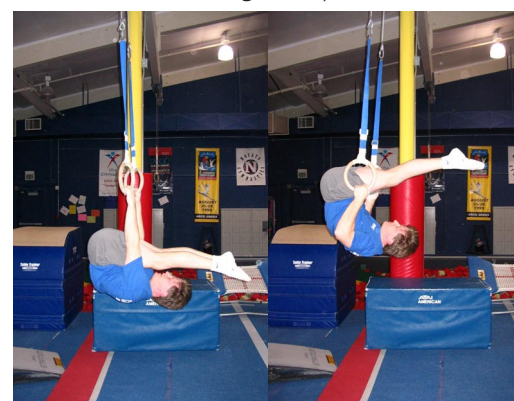
shoulders to align themselves in a comfortable way while doing the exercise.

## Inverted pull-ups

Inverted pull-ups combine the stabilization requirements of an inverted hang with the conditioning load of a regular pull-up. Starting in a piked or straight-body inverted hang, pull up as high as you can and return to the start position. Be sure to practice these in both the straight and pike positions.



Straight body



Piked

## Pull-up to lever

A pull-up to lever sequence is a good starting point for developing a front lever. Starting in a bent-arm hang and keeping your body straight and tight, lift your toes and push the rings away to a front lever, then return to a bent-arm hang. The key to this exercise is to lift and push into the lever. Do not allow your shoulders to drop as

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# History and Use of Stall Bars

~ Larry Harmsen ~

Stall bars are an excellent tool for developing strength, conditioning, and flexibility. A set of stall bars looks like a wide ladder, typically about three feet wide and eight feet tall, with round steps, mounted to a wall. Good stall bars are heavy and robust, and they are made to handle any person or activity without failing. They are valuable to athletes, gymnasts, physical therapists, military and police personnel, martial artists, weightlifters, and to anyone who wants more function than the “all-in-one” fitness machines can provide. Over 100 years ago, stall bars were common equipment in YMCA and college, high school, and private gyms, but their popularity waned during the middle of the last century. However, growing health consciousness, along with the popularity of gymnastics, has brought about a renewed appreciation for stall bars.

In the late 1700s to early 1800s, the word gymnastics was used to mean physical education and development generally, rather than to describe a specific sport. Johann Guts Muths, who is sometimes called the grandfather of modern gymnastics, started a new movement in physical education for school-age boys and young men in Germany and published a book titled *Gymnastics for Youths* in 1793. He built a 20-foot-high wooden frame outdoors for climbing, and suspended climbing ropes, a rope ladder, and a climbing pole from it. He had a wooden ladder that was used to climb to the top of the frame when needed. You can imagine that some of the youth did things on the ladder other than simply climb it. That ladder was a forerunner of stall bars.

Frederick Ludvig Jahn, a younger contemporary of Guts Muths, knew that strong, healthy young men were necessary for the well-being of his native Prussia. He copied Guts Muth's wooden climbing frame, enlarged it, and made the ladder an integral part. Exercises were then developed

for the ladder, which helped shape the development of the apparatus. For the most part, although the ladders were not perfectly vertical, some of the exercises were the same as those later used on stall bars. Although Jahn's gyms were still located outdoors, soon buildings were modified to serve as indoor gyms and new gymnasiums were built. As time went on, ladders were permanently fastened to the walls, creating primitive stall bars.

Concurrently with Guts Muth and Jahn, Per Henrik Ling, a Swedish scholar and athlete, started a physical education movement in his country. As Ling, who suffered from arthritis, was taking fencing lessons, he noticed that physical activities had a wonderful therapeutic effect on his arthritic arm. This observation motivated an interest in the therapeutic effects of exercise, and he became a student of anatomy and physiology. Ling believed that physical exercise must be based on the laws of the human system and must influence both the body and the mind. In the early 1800s, when Napoleon became a threat to Sweden and had reduced the size of the Swedish empire, the Swedish king supported Ling's idea to establish a physical training institute as one pathway to building up the nation's military strength. Ling started the Royal Gymnastics Central Institute, where he developed gymnastics to an art that became known as the Swedish system. In his work in the gymnastics institute, he invented not only stall bars but also the Swedish box that was the forerunner of the vaulting horse and other gymnastics apparatus.

The vertical, permanently mounted gymnastics ladder used in Germany and elsewhere, and Ling's stall bars, which were developed nearly simultaneously, quickly evolved into the type of stall bars commonly used in high school and college gymnasiums, private gyms, and YMCAs in the late 1800s through middle 1900s.



A wall of stall bars with young men taking lessons on how to use them.

Minneapolis, MN, YMCA, circa 1892-1910 (Property of the Kautz Family YMCA Archives, Minneapolis Collection, record 000394, used with permission)

Stall bars were also used in the medical field. The U.S. Army had a professional service of physical therapists that, from World War II into the early 1960s, used what became called the Therapeutic Gymnasium. Among the typical exercise equipment found in these gyms were stall bars. Even today, stall bars are widely used in physical therapy.

Stall bars have made a comeback in recent years. In her 2003 *Beginning Stall Bars* video, Tammy Biggs, a USA Gymnastics Women's National Team coach, states, “In other countries, everyone has these [stall] bars.... If you put them all along your wall, you can have your whole team do flexibility and conditioning” and dramatically increase their competition scores as a result. Today, stall bars are used for a variety of exercises (chin-ups and pull-ups, leg lifts of different types, and “flagpole” or sideways handstands, to name a few), and they can be tailored to a variety of activities and purposes.

Here are some examples of exercises you can do to get started on stall bars. First, simply hanging from the stall bar is a good, gentle warm-up to stretch the spine. Hang, facing outward, for as long as you can, and relax, with toes pointed down. Next, the stall bar can be used to stretch the back muscles. Face the stall bar, standing approximately three feet

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# History and Use of Stall Bars

— Larry Harmsen —

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away. Bend forward with straight legs and straight back and arms held straight out in front of you. Hold on to the bars to keep balanced. Lower your back until it is horizontal, or parallel to the floor, and straight. Try to keep your legs straight. Your arms should be holding onto a bar in a horizontal position, parallel to the floor. Now move your feet in toward the stall bar until your center of gravity wants to pull your body away from the bar. Continue to move your feet in toward the stall bar as far as you can and still keep your feet firmly anchored to the floor without slipping. This stretches your back. Count slowly to 25, or quit earlier if your back starts to burn or hurt. Gradually keep working at this until you can sustain through a slow count of 25. At the end of a workout, come back and do another relaxed hang from the stall bar. This time, face the stall bars and hang, relaxed, with toes pointed down. Hang as long as you can.

Another excellent exercise on the stall bar is the leg lift. Hang from the stall bar, facing out with palms out while grabbing a bar, toes not touching the floor. Bend the legs at the hips, keep the legs straight, and lift them to horizontal. Maintain a static hold for at least ten seconds. You can do one leg at a time or both legs at the same time. A variation is to bend at the knees into a tuck as you bring the legs to horizontal, or all the way in to the chest. Another, more difficult, variation is to bend both legs upward, almost vertical, and shape your body into a "V." For conditioning with any of these leg lifts, hold the position for at least ten seconds, relax, then do it again. For developing strength, do the exercise repetitively, holding for just a few seconds each time. These exercises strengthen the back, abdominal, leg, and other muscles tremendously. To add even more to the horizontal or vertical leg lift, spread your legs as wide as you can and either hold, for conditioning, or do reps, for strength building.

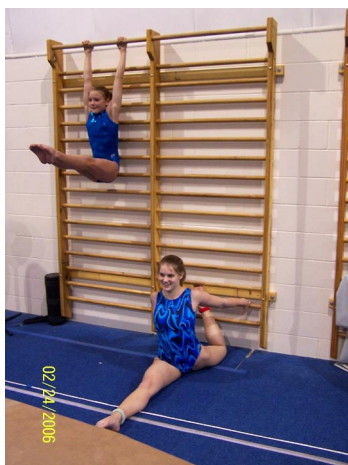
Another good abdominal-building exercise is to sit on the floor with your back against the stall bar. You can then move your lower back four to five inches away. Lean your shoulders against the stall bar, and reach behind and grab the bar that is approximately even with the top of your head with palms up. Then do a leg lift with straight legs and hold it so that no part of the lower leg or feet is touching the floor. The legs should be about three to five inches above the floor. You can also lift your legs up higher, bending at the knees, and try to touch your chest. When doing the high lift with bent knees, you can do it repetitively rather than hold as on the leg lift.

Gymnasts use the stall bar, among other things, to stretch their leg muscles and make them more flexible. They go into a split, facing away from the stall bar, with the leg nearest the bar bent at the knee and the foot hooked into a bar. They hold the position, and then change legs. Try it if you can, but don't force it, or you may strain or tear a muscle or ligament.

Stall bars like the ones in the photos in this article are available from Norbert's Athletic Products, manufactured by my company, Visions in Wood. They are built with strong and flexible American ash and hickory and are designed to withstand vigorous and continuous use.



*end.*



Another exercise to strengthen the legs and knees is to hang facing the stall bars, then lift the lower legs at the knees and hold, or do it repetitively, holding for a few seconds. Do this exercise with slow, controlled movement, without snapping the knees. This is excellent for people with knee problems.



# Got Rings? Now What?

— Roger Harrell —

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your legs lift. Keep your shoulders as high as possible and push the rings downward. This makes the motion significantly easier and helps develop proper technique for the front lever.

## Back lever

A back lever is the easiest straight-body strength move in gymnastics. From a piked inverted hang, push your toes out directly toward the wall until you are just barely able to hold the position.



Return

to the pike. Work the back lever and push your limits until you are able to stop your body parallel with the ground. It is essential to actively tense your entire body when executing this skill. Squeeze your arms tight and press the rings inward, while simultaneously squeezing your heels together and keeping your butt tight. Finally, lower into the skin the cat and pull back up to inverted hang with a straight body.



## Front lever

There are several steps to help develop a front lever.

Step 1: Tucked front lever. Try to hold your torso parallel with the ground with both legs tucked. Be sure your arms are straight.

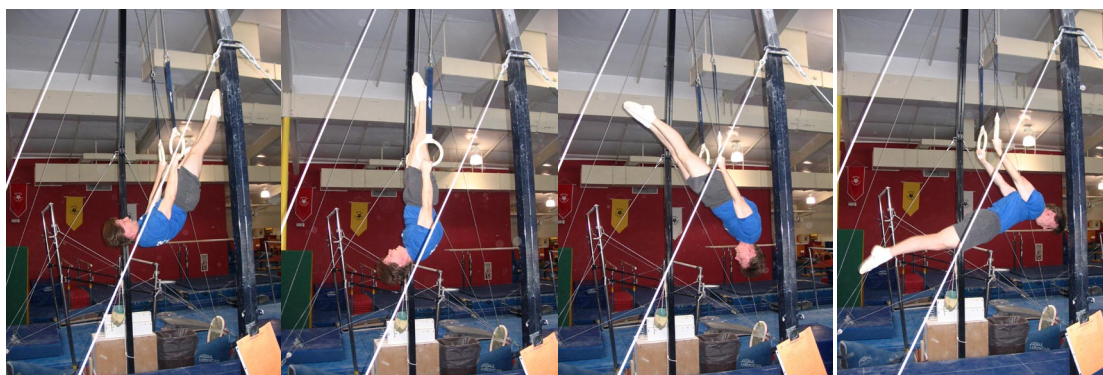
Step 2: Single leg front lever. Hold a front lever with one leg straight and the other leg bent so that your foot is next to your knee. Be sure to switch which leg is bent.

Step 3: Straddle front lever. Hold a front lever with your legs straddled as wide as possible. Gradually, bring your legs closer together as you build strength.

Step 4: Front lever. Following the above drills will bring you to the point where you can hold a stable, legs-together front lever.

## Straight-body pull to skin the cat pull-out

A straight-body pull to skin the cat pull-out is identical to the hang pull to skin the cat pull-out with the exception that it will be done with a straight, rather than piked, body.



With straight arms and a straight body, pull through a front lever to inverted hang, continue through back lever, and lower to skin the cat. Lift your heels and pull out, keeping your body straight, then roll through an inverted hang, lower through front lever, and return to hang.

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# Got Rings? Now What?

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## The support

A basic requirement for ring work is to obtain a solid, proper support in which your arms are straight, hips open, and chest up. The rings should be turned out between 15 and 45 degrees so that the insides of your elbows are facing forward. Before moving on to presses, rolls, or any other support work, you should be able to hold this position for a minimum of 15 seconds with little to no movement.

## Push-ups

Start with the rings at about waist height. Perform push-ups on the rings. As strength increases, lower the rings until they are just above the floor; then, to make them more challenging, you can elevate your feet a little. To further increase difficulty, lean forward a little bit while you do the push-ups so that at the bottom of the push-up your hands are right next to your hips.



O.K.



Better



## Dips

Perform dips just as you would on the parallel bars. At first, do whatever it takes to get the dips done. As your support gets stronger, work toward doing the dips with the rings turned out (palms forward) in the proper support position described above.



Standard



Turned out



## L-sit

See issue 42 (February 2006) of the CrossFit Journal for progressions for an L-sit. The progressions on parallel bars and rings are the same. The only stipulation on rings is that the arms and shoulders in the ring support should not change as you lift into the L-sit. Rings should still be turned out, and your head and chest up.

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# Got Rings? Now What?

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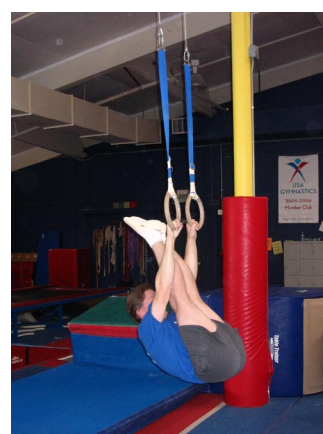
## Hollow body training

Set up matting for this exercise. Set the rings a couple inches above the mat. Start in a push-up position, with hands on the rings and feet on the floor. Push the rings forward, maintaining a hollow body position, then pull back to a push-up position. Once this sequence is developed, you can continue past the push-up position and push the rings back toward your hips to work the planche position as well. Once some strength in the planche position has been developed, you can try, from the planche position, to push the rings out to the side a little and allow your body to drop down between your hands to train the maltese. Arms should be kept straight throughout this sequence. If you have to bend your arms to complete a motion, then start over and go only as far as you can while maintaining straight arms.



## Forward roll to inverted hang

From an L-sit in support, lift your hips up behind you and bend your arms. Try to lift your hips up over your head. Once completely inverted, roll forward and let the rings turn out and you will end up in a piked inverted hang. In starting and teaching this skill, be sure to lift your hips at the beginning and do not dive your chest forward. This is a very common mistake and can lead to injury. It should be a very controlled lifting motion. The roll only occurs once the hips are directly above the head. If you can not reach this position, do not try to roll out—just lower your hips and return to support. When first learning the skill, be sure to use a spotter.



## Shoulder stand

Initiate a press to shoulder stand just like you did for the forward roll: start in an L-sit and lift your hips until they are directly over your head, but, now, instead of rolling forward, straddle and lift your legs until they hit the cables. Use the cables for stability and get

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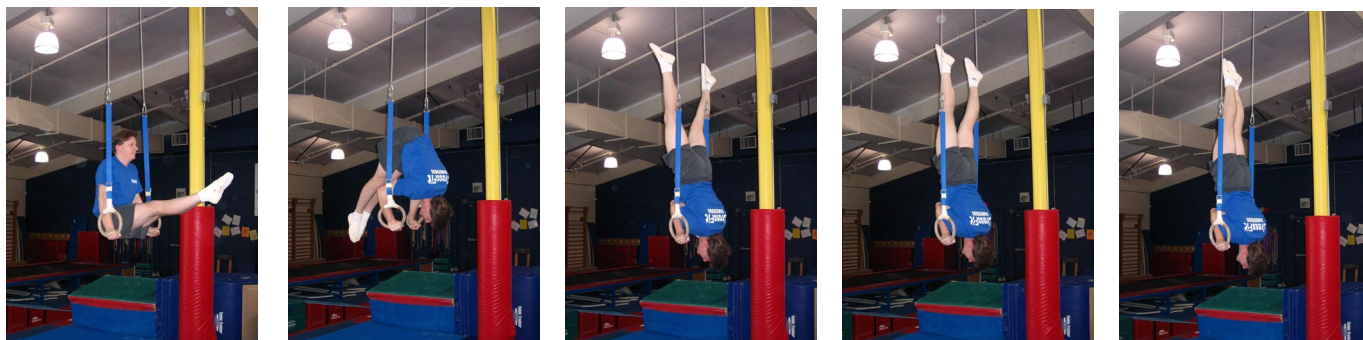


# Got Rings? Now What?

~ Roger Harrell ~

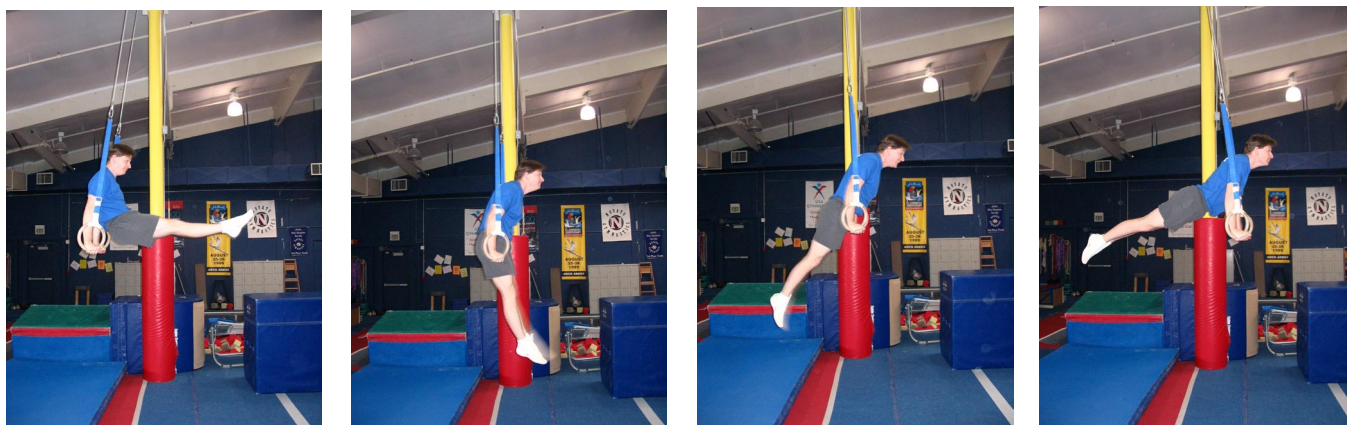
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comfortable in this position. If you fall too far forward, just roll out. Once you are stable upside down, you can bring your feet to the insides of the cables for minimal assistance, then bring your legs together and balance the shoulder stand free of the cables. Once you have a sense of the balance, try to press into the shoulder stand keeping your legs together throughout, then balance the shoulder stand, then lower back to support.



## Support swings

While maintaining a good support position, swing forward and backward. At first, it will be very difficult to maintain stability. Keep the rings turned out and try to keep your body straight. Resist the temptation to lift your toes and pike the hips in the front swing. Swing with your whole body straight. This exercise will greatly stabilize your support and build strength.



## Bent-arm press to handstand

A bent-arm press to handstand is similar in technique to the press to shoulder stand. Start in an L-sit, and then lift your hips to the back and push the rings forward. When your hips are as close to directly above your shoulders as you can get them, straddle and lift your legs to the cables. Push your arms straight to reach a handstand. Once you have reached a handstand, work on stabilization and moving your feet to the insides of the cables. Try to then turn the rings out. The rings should be parallel with each other. Once this position is stable, try to hold the handstand free of the cables. Again, if you fall forward, simply roll out. As your press to handstand gets stronger, work toward performing the press with straight arms.

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# Got Rings? Now What?

— Roger Harrell —

*...continued from page 12*



## Muscle-up

A muscle up is simply a combination of a pull-up and a dip, with the addition of a nasty little transition. A proper false grip and technique are essential to achieving the muscle up. For the false grip, place your hands in the position that they will be in when you reach the support. This means that your palms need to be on top of the inside of the rings from the beginning. To learn the false grip, place the rings at a bit below shoulder height. Open your hand completely and place the ring so it runs from the crook of your thumb to the opposite heel of your hand. Then grasp the ring and lower yourself down to hang from it. Once you have a good sense of the grip and can hang with both hands in false grips you can begin working toward the muscle-up. Start with the rings low so you can use your legs to assist yourself through the motion. When you are below the rings in the hang, you will want to have your legs a little bit in front of you. This will allow you to rotate over the rings through the transition. Start the pull and roll your shoulders over your hands, keeping your hands and elbows close to your body. Your elbows should travel in curves that are parallel with each other; they should not point outward at all. Once your shoulders are up over your hands, push up to support. Once you have a sense of the motion, try to do it without the leg assist. Think about pulling aggressively, getting through the transition quickly. As your muscle-up develops, you will find yourself able to hop through the transition.



## Backward roll to support

A backward roll to support combines kinesthetic awareness, inversion, and great strength demands. Start from a hang with a false grip, pull your legs up and forward, roll over backward and push into a support. The keys to this skill are similar to those for a muscle-up: keep a good false grip, and keep the rings close to your body.

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# Got Rings? Now What?

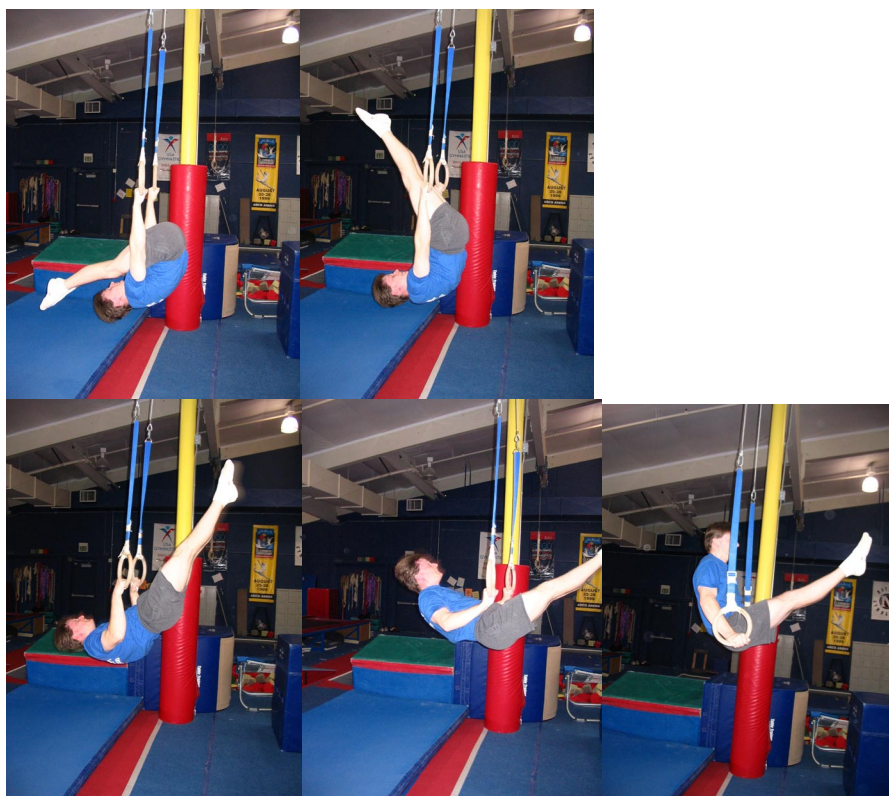
~ Roger Harrell ~

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Kip to support

Start in a straight-body inverted hang. Pike down, and then quickly kick upward. Once your body has fully extended, sit up and try to catch up to your legs while pushing down on the rings. As you roll forward, keep pressure on the rings and finish in a support. The kipping motion can be practiced on a mat. Begin by lying on your back in a pike with your hands pointed toward the ceiling. Your weight should be on your upper back and shoulders. Kick your legs up and extend, then snap forward. There will be a moment when you are completely off the ground. Try to reach back with your hands and catch yourself in a rear support before your feet hit the ground.



*end.*

## The Slow Lifts Part 2: The Squat

- Mark Rippetoe

The squat is the key to strength and conditioning. It is the sine qua non of barbell exercises. I usually go so far as to tell new trainees that if they are not going to squat, they should not even bother to train. No other exercise changes so many things about the body in so short a time as the squat. To omit squats because some uninformed fool said they were "bad for your knees" indicates that you probably didn't want to do them anyway, so it's just as well.

The next time some quasi-professional health-industry type repeats this hoary old silliness, ask them how they know. If they say that the bulk of their professional practice is generated by athletes who regularly and correctly performed full barbell squats and consequently "blew out" their knees, call me and I will be there within thirty minutes with \$80 million in cash. My money is safe, of course. The truth is that the bulk of their professional practice—insofar as athletic/sports injuries are concerned (never mind the myriad injuries and conditions resulting from inactivity)—is composed of soccer, basketball, and football players with knee injuries, none of whom are ever counseled that their chosen activity will "hurt your knees." That advice is always saved for athletes participating in a structured strength program that includes squats.

I have some experience in these matters. A local pediatrician actually told one of my trainees—a particularly good kid, big and tall, but with rather limited athletic ability (he had an 8-inch vertical jump at the time)—"I would really hate to see you jeopardize your career in athletics with a bunch of squats and weightlifting." Over the past few years this particular doctor has cost lots of kids a chance at an athletic scholarship and me a bunch of money, so I'm rather unhappy with him just now. And it's all the result of a profound lack of curiosity about something he desperately needs to learn.

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# Virtuosity and the Basics of Parkour

## Environmental Awareness and the Roll

~ Jesse Woody ~

In my first installment on parkour, in last month's journal, I recounted a bit of the sport's background, from some of the original concepts of functional fitness that underlie it to the sport/art that was developed by teens in the suburbs outside of Paris and has recently exploded onto the world scene. That being said, any activity is only as good as its actual practice. Talking about parkour is in no way correlative to actually doing it. The same applies to CrossFit in general; rarely will someone garner an accurate view of the program purely through conversation or contemplation rather than action. So let's get right to the nitty-gritty.

Parkour, first and foremost, is dependent on two things: the environment, which dictates the possibilities for effective movement, and your current level of ability or comfort within that environment. In much the same way that CrossFit scales and modifies techniques from gymnastics and Olympic lifting for new trainees, parkour can be scaled and modified to benefit most any willing population. And the result of an untrained individual getting in over their head in parkour is similar to that of putting a newbie upside-down on a set of rings or in a full overhead squat under a bodyweight load on a bar. (Let's just say that natural selection can be a beautiful thing.) Fortunately, as with many other aspects of parkour, the way to scale movements to your skill level is mostly common sense. I will eventually give some specific tips and drills for scaling movements to your ability, but for now, if something is too high for comfort, find something at a safer height, if it involves a level of speed or commitment that you have yet to possess, find another, more appropriate, move or obstacle.

Parkour takes CrossFit's concept of everyman's gymnastics and moves it into an environment infused with an additional dose of variation and randomness. This same varied and random nature that enhances its overall benefit can also create unknown hazards, but you can manage them by carefully inspecting the

various elements of any new environment. Take note of any loose bricks, broken concrete, or slick surfaces (algae or moss-covered bricks are notoriously dangerous



even days after a good rain). Besides the obstacles themselves, the surrounding area is also important to inspect. Visualize your approach angle to each object and memorize the loose gravel, protruding roots, or other questionable objects that may occupy this path. Also keep in mind the area beyond each obstacle that you will invariably occupy post-technique. That old lady walking around the bend in the park might make her way directly beneath a wall you plan to incorporate in your training, and despite what some may tell you, vaulting onto old ladies is not parkour.

Once you have given the area a thorough

examination, start to navigate your environment slowly, and keep a watchful eye for any hazards you may have overlooked. Through this process you will gain an intimate knowledge of the nature of certain obstacles and surfaces that can be extremely useful in an emergency situation. Perhaps that root you thought would trip you up ends up being the perfect final step before a vault, propelling you slightly faster and higher than you would otherwise be capable. Maybe a quick sprint toward that algae-covered, wet brick surface ending in a controlled slide to underbar is just the move that will evade that band of marauding ninjas on your trail.

So now that we've covered this essential safety aspect we're ready to start jumping, climbing, and vaulting our way through the city, right? Well, not exactly...but soon, grasshopper, I promise. First, we will drill the basic roll to the point of virtuosity. It is a simple shoulder roll, similar to the technique performed in many martial arts, which helps alleviate unnecessary impact from drops, sustain momentum when jumping gaps, and provide a safety net if a technique doesn't go according to plan. For those unfamiliar with the rolling technique, the simplest progression that I have found proceeds as follows:

1. Choose a shoulder to roll over. It is best to become proficient in both directions. If you are rolling over your right shoulder, your right knee will be forward (this description will be assuming a right shoulder roll).

2. In the beginning, kneel down on your left knee, with your right knee bent in front of you. As you bend at the hips to roll, your hands will contact the ground slightly behind the line made by your right foot. You can also start from a standing "table-top" position, bending at the knees and hips to place your hand in the appropriate spot.

3. Bend at the hips, placing your hands

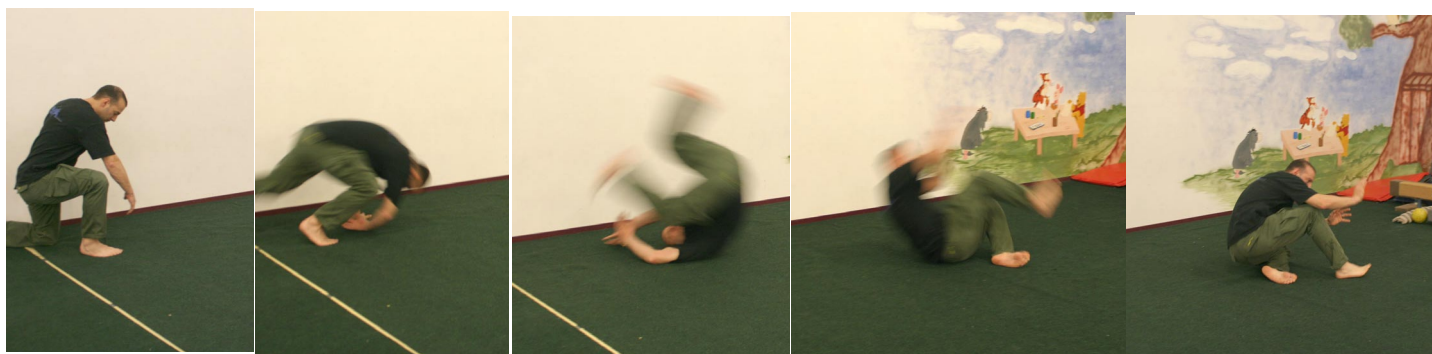
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# Virtuosity and the Basics of Parkour

## Environmental Awareness and the Roll

~ Jesse Woody ~

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to the left and slightly behind your lead toes. Look back toward your left foot by tucking your chin into your chest at an angle.

4. You will push off your left foot, meeting the ground with your hands, then right forearm, then right scapula (shoulder blade). From your right scapula, you will roll across your back at an angle toward your left hip. It helps to imagine that your arms are wrapped around a barrel. This will create the proper position for a smooth transition from your hands to your arm/upper back. Keep your chin tucked, looking toward your left foot throughout the movement.

5. As you roll over your back, your left foot will tuck back toward your butt, and after your hip, your left heel will be the next thing to contact the ground. Your right leg will still be bent at the knee, and as your momentum carries you over your left heel, your right foot will land in front of you, carrying you up into a running position.

Once this technique is mastered from the crouch or table-top position, you can move to a standing roll. Here you will give a slight hop or skip, bend at the knees and then propel yourself forward. Your hands will contact the ground for a split second before you transfer once again to your forearm, scapula, then diagonally across the back. All other aspects of the roll remain the same; your chin will be tucked

toward your trailing leg, your trailing foot tucked into your butt, and your lead leg bent throughout the move. Try to keep relaxed enough to avoid any “dead” spots during the roll. You will want consistent contact to avoid unnecessary impacts (imagine a wheel with a flat spot in it) so keep your tucked, rounded-back position until your momentum carries you onto your feet. You will invariably learn this the hard way, though, on your quest to transition faster to the run. I easily spent a week hobbling around with a bruise down the side of my hip from thinking that I could preemptively exit from the tuck, only to take the momentum of a good-sized jump and transfer it to my pelvis. That is precisely the opposite of the whole “transference of momentum” idea.



Once you get the hang of the basic technique, both the standing roll and the roll from a drop will seem relatively easy, as the added momentum will do most of the work for you. After committed practice, you will likely find your own personal method for efficient rolling

and will know that you've mastered the move when you can roll consistently from both sides, directly onto your feet. Don't despair if you don't pick up the technique immediately; the learning curve can be somewhat steep. As long as you keep the basic concept in mind and approach it with constant, mindful practice, a perfect roll will eventually be yours.

This most basic of movements is of supreme benefit to anyone who ventures to learn it. If you are an athlete, it is essential to know how to right yourself in a fall and dissipate the momentum to avoid injury. The same goes for seniors, kids, and everybody between: knowing how to roll can make the difference between a dislocated shoulder or broken collar bone and a smooth and safe transition that brings you directly onto your feet. In terms of parkour, it is both a vehicle for preserving momentum and reducing impact as well as an essential aspect of safety.

With a grasp of these basic concepts—allowing your environment to dictate your movement, approaching obstacles with humility and readily scaling down your approach to the proper level, and continually practicing the basic roll—you will have a strong foundation on which to build the rest of your parkour training.

But why haven't we discussed any of the basic moves? As odd as it may seem,

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## Virtuosity and the Basics of Parkour

- Jesse Woody

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these are secondary to the three simple concepts I've outlined. Once you master those, you are free to go out into the world and choose the movements that best suit your chosen path. If you can keep these ideas in mind, you will be more perceptive of the possibilities that lie outside some standard move that you've seen repeated a thousand times in videos. From this basis, you can train parkour to become an extension of your own most effective locomotion, no matter what path you may choose. In this way, you can run toward a table, and instead



of instantly thinking "monkey vault!" you can be free to approach from the angle of "now what might be the most efficient movement for *me* in this situation?" Trust me, with two and a half years of constant training (on top of twenty years of similar activities), I still consider myself a beginner in this respect. Mastering both body and mind to allow for unfettered movement is a lifelong process (a case in point is parkour pioneer David Belle, who still persistently trains to improve after fifteen years of experience and is a role model for us all in that regard.)

So what was I saying about words as opposed to actions? Oh yeah, enough of my blathering—get out there and train!

*end.*

## The Slow Lifts Part 2: The Squat

- Mark Rippetoe

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Squats make knees stronger. Squats make athletes better. Squats are good for kids, teenagers, adults, elderly people, and anybody else who can perform them correctly. Squats are the functional expression of human skeletal and muscular anatomy, and the human body is designed to do them. The squat is the way that tens of millions of years of evolution has adapted the bipedal human body to lower itself to the ground. It is the position in which half the population of South Asia spends the afternoon. And when done weighted, it is the best exercise in existence for strength, power, coordination, joint integrity, bone density, confidence, discipline, intelligence, and charm.

It is important to understand why squats produce these effects. The short answer is that squats are awfully bleeding hard, and hard stuff requires more effort and produces more results than easy stuff. This is obvious to anyone who has been alive for more than five or six years.

The long answer is that since organisms adapt specifically and exactly to the stresses they are exposed to, the stresses produced by the squat happen to be the very stresses the human body needs to receive to express the genotype we have inherited. Its movement pattern is the one the muscles and skeleton do anyway, the basis for bipedal locomotion and force production against the ground. When this movement is performed under progressively heavier loads, the body adapts by getting better at doing the very things it was designed to do. It adapts by increasing its ability to generate the force of muscular contraction, by coordinating those contractions more efficiently, by improving the quality of the structures that transmit the force from the ground to the load, and by getting better at doing these things exactly and specifically in accordance with the manner in which the stress is applied to the system.

To enumerate, squats produce bigger muscles, better nervous control over those bigger muscles, denser bones, tougher tendons and ligaments, the cardiac and pulmonary capacity required to function under the circumstances of loaded squatting, and the psychological skills necessary to do them. Deadlifts come close, but don't quite stimulate the systemic response that deep squats produce, possibly because their range of motion is not as great, or possibly because their lack of stretch-reflex activation leaves out a key component of the stress. As of this writing these matters are poorly understood, and likely to stay that way so long as academia remains mired in the goo of dogma and conventional wisdom.

Learning to squat is not that complicated, although it can be made that way. I have developed a method over the years I have spent teaching squats to everybody who will hold still long enough, one that eliminates the usual trial-and-error approach taken by most personal trainers and strength coaches. It works well with individuals of different sizes and abilities, and with people of all ages. I have used it with deaf people with good results. It is detailed in my and Lon Kilgore's book [Starting Strength: A Simple and Practical Guide for Coaching Beginners](#).

In a nutshell, it is easy to squat correctly if you know before you squat with the bar exactly where you are going to be when you get to the bottom. This is accomplished by assuming the desired bottom position before the bar is taken out of the rack. This way, the motor skills involved in identifying the bottom position—its balance, its proper depth, and its foot, knee, hip, back, and chest positions—can be embedded before the factor of bar load is added.

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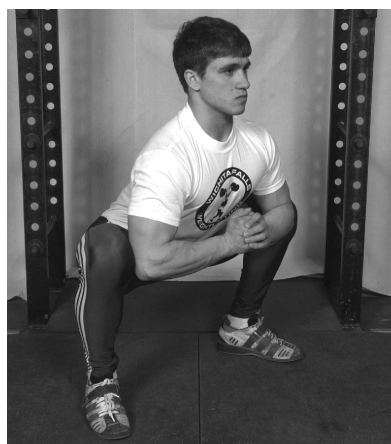
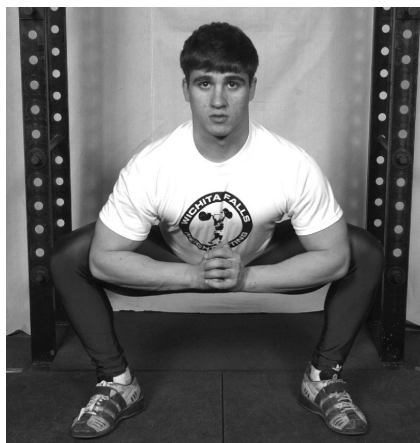


# The Slow Lifts Part 2: The Squat

Mark Rippetoe

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The correct stance is taken, with the heels at about shoulder width and the toes pointing out at about 30 degrees. Some people, having been told (often by a football coach) that the toes need to point straight ahead, will need to point them out more than they want to. Some people, having read the muscle magazines and seen pictures of large oily guys with no shirts and no body hair squatting with a narrow stance—"best for isolating the quads, my man"—will take a stance that



is too narrow, and will need to be wider than they want to be. This stance is the best for allowing the hips to do their job of lowering and raising; it is not designed to isolate anything but rather to distribute the force evenly between the hips and knees so that everything contributes its

anatomically predetermined share of the work to the job.

In this correct stance, squat down all the way to the bottom. The bottom is the extent of your full range of motion as limited by your flexibility but enabled by this correct stance. Once there, place each elbow against the inside of that knee, put the heels of your palms together, and jack your knees apart by pushing your elbows out against the insides of your knees, keeping your chest up as best you can. This puts the thighs in a position parallel with the feet, again about 30 degrees out from straight forward, with no twisting of the knee since the femur and the tibia are lined up. Your heels will be down, since that is where they have to be if your weight is distributed evenly on your feet. Your knees will be slightly in front of your toes, since that is where they will end up if your heels are down and your knees are out. Most people will be able to get below parallel in this position, since most of the reason people squat high is bad position of the leg and hip components. Squatting below parallel is perfectly natural if the correct position is used. If it weren't, it wouldn't be so easy to do.

Once this position is comfortable and stretched out a little, come up out of the bottom position and pay attention to what you do on the way up. Ninety percent of people who have had no previous instruction in the squat will lead up out of the bottom with their hips, essentially shoving their butt up in the air. This is correct. The squat is a hips-initiated movement, meaning that hip extension—glutes, hamstrings, and adductors acting to return the pelvis/low back and the femurs to a straight line—starts the squat up out of the hole.

The trick is to keep the chest up while this happens. Keeping the chest up and lifting the chest are two different things. "Keeping the chest up" involves maintaining the angle and position of the back while hip drive occurs, while "lifting

the chest" involves changing that angle and position. Attempting to increase the angle of the back (by actually lifting the chest up) while coming out of the hole will pull you forward, off your heels onto your toes, and kill your hip drive, in addition to exposing your spine to changing leverages under load as its angle increases. The back will become vertical soon enough, after the hip extensors begin phasing out and the quadriceps become the prime movers. Making the back vertical too early, or trying to keep it too vertical in the bottom, interferes with the mission of the hips.

Here's a test that can be very illustrative of the concept of hip drive and its relationship to these angles. Take your correct bottom position and then have a training partner put a hand on your lower back, applying force straight down, perpendicular to the floor, as gravity would do. Drive up against this force while keeping your back angle constant, and see what this feels like. Now do the same thing while raising your chest up and increasing your back angle. I predict that you will not like it as well.

While we're at it, compare driving up against the hand while looking down at a point six to ten feet ahead on the floor, to driving up while looking up at the ceiling. I predict that you will like looking down much better. This is because looking up pulls up your chest and shifts your weight forward onto your toes, while looking down at that angle puts the cervical spine in an anatomically normal position. Looking down also allows the eyes to provide the brain with instantaneous information regarding body position relative to a stationary point close enough to serve as a balance reference.

So, here's the bottom line: your hips cannot drive up if your weight is balanced forward on your toes, and if your heels are not planted firmly, your weight is forward. This is because of the way the hamstrings work during the squat: they

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# The Slow Lifts Part 2: The Squat

—Mark Rippetoe—

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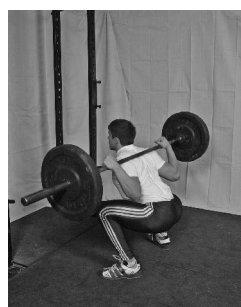
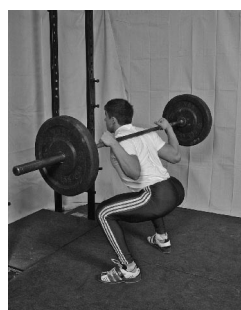
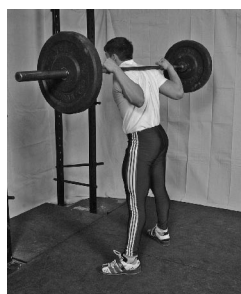
pull back against their insertion points on the tibia just below the knee, producing a stretch-reflex-enhanced contraction up out of the bottom. The tibia should be a solid anchor for this “bounce.” The hamstrings use their proximal function in the squat—they pull on the ischial tuberosity of the pelvis to produce hip extension—the straightening out of the hip. No forward knee travel should occur after the hamstrings begin to tighten as the bottom of the squat is approached or as the upward drive occurs, since any forward knee movement (which can be thought of as backward movement of the distal end of the tibia relative to the knee) will diminish hamstring tension and make the stretch-reflex-enhanced hamstring contraction much less powerful. If the heels are not planted firmly, some of the force generated against the tibia gets absorbed as the heel gets pushed down, instead of pulling the pelvis into extension. In the squat, the tibia is the anchor for the hamstrings, and it can't anchor anything if its distal end at the heel is squishy.

All these things can be best studied and worked out before the bar is on the back. Most of the problems encountered in the squat can be fixed here, without load. Only after a good position is obtained at the bottom without weight should you squat with the bar. Fortunately, most people need only a couple of minutes in the position before they're ready to use the bar.

When you're ready, take the bar out of the rack (stepping back please, so that you walk forward when putting it up), take the same stance you prepared, look down a bit, think about keeping your knees out, take a big breath and hold it, and squat all the way down. I'd bet a lot of money—maybe not \$80 million, but a lot—that this first squat is balanced, strong, deep, and correct.

There is a lot here to consider, and this is just the beginning (which is why Starting

Strength devotes 52 pages to the squat). It is the most important barbell exercise in our inventory of things to do in the gym. Learn to do it correctly, dammit. We need you strong.



end.

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