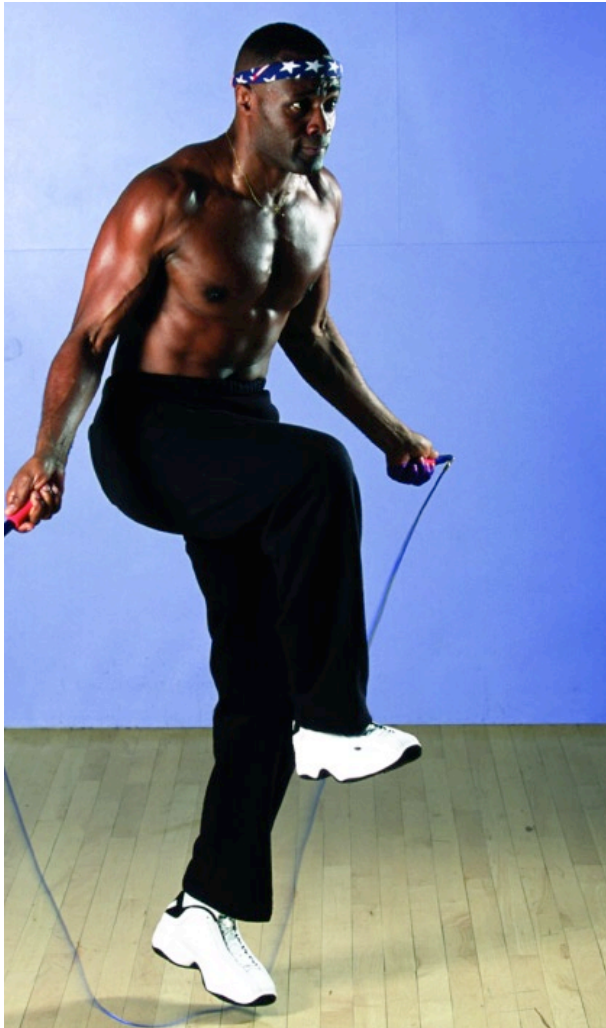


the **CrossFit** JOURNAL ARTICLES

Jump Rope Basics

Part 1: Preparation

Buddy Lee



When I was training as a wrestler for the 1992 Olympic Games, the jump rope, along with many of the kinds of functional training exercises embraced by CrossFit, were the keys to my development into one of the quickest, most explosive, and most highly conditioned wrestlers in the world. I believe that CrossFit's fitness principles of functionality, intensity, and variety are taking us back to the basics and setting the standards that can help our nation to regain its health. Jump rope can be an important part of fitness and sports training, providing key advantages in developing dynamic balance, speed, quickness, agility, coordination, concentration, and cardiorespiratory efficiency.

I come to you with a proven system based on twenty years of research and testing, including use with many of the world's greatest athletes. I will teach you the tools you need to master jump rope and reap its benefits. My mission is to educate, motivate, and encourage you to jump rope as an integral part of your CrossFit training.

Misconceptions about jump rope

Many people think jump rope is so simple that any rope and material will do and that instruction is not necessary. When they realize that the rope they have is one length, lacks adjustment, and does not turn smoothly, they often give up in frustration. In actuality, jump rope is a skilled movement that requires proper timing and coordination with every jump. Developing the rhythm and timing to master the skill can be difficult and intimidating for some people. These frustrations can be alleviated by proper equipment (a jump rope

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Jump Rope Basics (continued...)

that is adjustable for your height, has a proper turning mechanism, and is aerodynamic) and progressive, step-by-step instruction.

Many people have shied away from jump rope because they trip every few jumps and have difficulty jumping with continuation. There is the fear of looking like a klutz. I too know this awkward feeling when trying out a new training technique, especially when I was in peak wrestling condition. However, my attitude has always been to not shy away, but become more determined to master the technique.

A common belief is that jump rope is high-impact and therefore hard on the knees and joints. I have even been asked if jump rope causes arthritis in the knees. (It doesn't.) Unless there is a preexisting medical issue, these are problems that can be easily avoided by learning how to jump rope the correct way. It is also important to remember that gradual progression will minimize the risk of injury. In fact, jumping $\frac{1}{2}$ to $\frac{3}{4}$ inch off the floor, which is all you need for good jump roping, causes less stress on the joints than running and actually strengthens the muscles supporting the knees.

For those of you who would like to learn how to jump rope—or how to teach others—but do not know where to start, I am here as your personal jump rope training coach, to teach you step by step how to jump the right way.

Why jump rope works

When done the correct way, jump rope offers many benefits and is a building block to fitness. It reinforces natural body biomechanics, symmetry, and efficiency in movements. It is portable, requires only a small space, and provides great benefits in very little time. It can be done year round, indoors or outdoors, in a group or alone. It can be performed merely as a warm-up to quickly raise core body temperatures before athletic activities or strength training, incorporated into circuits or other workout formats, used for “active rest” periods, or done as a standalone workout in its own right. Jump rope can be used as a training tool to target both the aerobic and anaerobic energy systems.

According to research by John A. Baker (1969), ten minutes of jump rope at only a 120 turns per minute can provide the same cardiovascular benefits as thirty minutes of jogging, two sets of tennis, thirty minutes of racquetball, 720 yards of swimming, or eighteen holes of

Technique Tips

1. Look straight ahead to maintain balance.
2. Keep body upright and balanced with the weight on the balls of the feet.
3. Jump only high enough to clear the rope (1 inch off the ground).
4. Land lightly on the balls of your feet.
5. Keep your elbows close to your sides, pointing down at a 45-degree angle.
6. Never sacrifice good jumping form for speed. Progress slowly.

golf. The metabolic rate, or energy output, is increased when different foot patterns are integrated. Jump rope involves multijoint movements that incorporate every muscle in the body and it ranks as one of the most efficient ways of shedding pounds. For the average person weighing 150 pounds, it expends as many as 12.9 calories per minute, or 770 calories per hour.

My system is based on a way of jumping that I call Hyperformance Jump Rope, which is performed in short, intense bursts at high rope speeds exceeding 220 RPM (revolutions per minute), coupled with active rest periods. This is how I trained as a world-class athlete to produce competitive advantages in speed, quickness, agility, balance, coordination and explosiveness, but it is suitable for athletes of all levels. Jump rope produces the greatest benefits when it targets fast twitch muscle fibers and the anaerobic pathway.

Jump rope requires the coordination of several muscle groups to sustain the precisely timed and rhythmic movements that are integral to the exercise. It is the coordination of these muscle groups that increases your capacity for dynamic balance—the ability to maintain equilibrium while executing complex, vigorous, and omnidirectional movements. Jump rope increases dynamic balance because you must make numerous fine neuromuscular adjustments to the imbalance introduced by each of the hundreds of jumps per training session. Balance may be one of the most important attributes for avoiding injury when performing both athletic and everyday life activities.

Jump Rope Basics (continued...)

My four-step jump rope training system

Many people jump rope incorrectly, by jumping too high, landing too hard, using incorrect body alignment or improper rope sizes, or by jumping on the wrong surfaces. In fact when done the correct way, jump rope requires you to jump only high enough to clear the rope, about ½ to ¾ inch off the floor, and involves less impact than running. After research and working with US Olympic sports teams to produce championship results, I have developed a proven 4-step system that teaches people of all fitness levels the right way to jump to receive the greatest benefits. My system is low impact, follows a safe teaching progression, and is easy to learn.

My system was designed with four steps:

- Step 1: Preparation Phase
- Step 2: Intermediate Phase
- Step 3: Conditioning Phase
- Step 4: Sports Training Phase

The purpose of my four-step system is to teach you in a structured way how to:

- Safely improve your jump rope proficiency.
- Gradually increase your jump rope capacity to 5–10 minutes.
- Gradually increase rope speeds from 120 to 200+ RPM.
- Incorporate sports-specific training jumps.
- Provide an easy transition to my Hyperformance Jump Rope programs for additional high-intensity training.

Step 1 - Preparation Phase

This article, the first in a series, will walk you through step 1 to get you prepared with the right equipment and off to a safe start. The first step is to master the skill of jumping properly without a rope. It is important to use ropes that facilitate good control and performance, jump on surfaces that absorb impact while generating a rebound effect, and wear clothes that will not impede movement.

The rope

Today's jump rope cords are composed of a variety of materials such as leather, sash cord, rubber, vinyl or thin and heavy cable that possess different weights and have different performance characteristics. But as jump rope

increasingly becomes a tool in your training, not just any rope will do.

Most jump ropes on the market are poorly designed and don't facilitate the maximum effectiveness of a jump rope workout. The main problem is that they are not adjustable to your height, which is critical to preventing drag, friction, and tangling. Another problem is poor handle design; in many cases, the handles are too big, too small, or too heavy, not fitting the ergonomics of the hand for a controlled and comfortable grip. Also the way ropes function inside the handles has a lot to do with creating excessive drag and premature breakage of the rope cord. The external swivel bearing system that my ropes feature allows for free rotation of the rope cord in all directions for maximum performance. Here are some guidelines for choosing a rope for general conditioning purposes and to incorporate into CrossFit workouts.

1. If you are a beginner who does not yet know how to jump rope properly, start off by using a jump rope with a thicker cord. (My jump and stretch cord is for this purpose; it is adjustable and is made of a bungee material that holds a perfect arch.) A thicker cord will provide a slower cadence, which will help you learn the successful timing and coordination of the rope swing with each jump. The more continuous jumps you can sustain, the more motivated you will be and the more benefits you will be able to reap from your jump rope sessions.
2. If you can jump at least 100 times without a miss, choose a speed rope with a heavier cable. It will allow you to jump faster and with control, but it has a greater centrifugal tendency that will challenge the forearms, chest, shoulders, and abs more.
3. If you are an accomplished jumper who can perform the power (i.e., double-under) jump with ease, choose a high-performance lightweight speed rope that can be customized to your height. These ropes offer versatility for any type of jump rope training, while allowing ease in performing consecutive double-unders and advanced skills.

For sport-specific training, there are a few other factors to consider. To decide whether a heavy or lightweight speed rope is best, use my motto: Train with the rope that allows you to best simulate the speed, quickness, and agility required of your sport. A lightweight aerodynamic speed rope easily responds to directional

Jump Rope Basics (continued...)

change with minimum air resistance and is effective in developing the anaerobic energy system while increasing quickness of the hands and feet. Polyvinyl chloride, or PVC, is the most versatile cord material because it can be manufactured at the proper weight, thickness, and flexibility to maximize the rope's aerodynamic properties in all directions. As a result, PVC material maximizes the number of repetitions per set that can be executed going forward, backward, and lateral. This is the type of jump rope that I used for my wrestling training and still use today.

Surface and training area

The best jump rope surfaces provide rebound for the takeoff phase of each jump and sufficient absorption for the landing phase. Recommended surfaces are wood, rubber, level dirt, or, if a good surface is unavailable, I recommend investing in a jump rope training mat. Avoid jumping on hard surfaces such as concrete or tile, as it will increase the risk of lower-body injuries. Each person will need an area of sufficient clearance on the sides (five feet) and over the head (two feet) for safe jumping.

Shoes and attire

Choose a pair of cross-training shoes with ample forefoot padding, because jump rope requires bouncing and balancing your body weight on the balls of the feet. Wear loose or well fitted sports gear. Women should always invest in a good sports bra. Remove big earrings, bracelets, and jewelry that could get into the path of the rope. A rope in motion can also cause serious injury to bystanders or someone jumping in front or behind you, so watch out for your surroundings. As a beginner, you are likely to encounter frequent tangling of the rope in your arms and legs and rope whips that may leave marks, so wearing long pants can be helpful.

Rope care

To avoid kinks and to ensure a ready rope, do not wrap the rope cord around the rope handle. Store the rope in room temperature and not in a cold garage or outdoors. To keep it kink-free hang it evenly balanced over a hook or fold and

lay it loosely on a flat surface or in a sports bag. Knowing how to properly store your rope can help preserve its life and ensure functionality and overall performance.

Rope measurement

A rope that is double the length from your feet to shoulders is ideal for mastering the fifteen basic jumping techniques. Provided that you have good jump rope form and posture, a rope adjusted at shoulder height will clear the head by at least ten inches during the execution of basic jump rope movements.

To determine proper rope length, stand on the center of the rope with one foot, and then pull the handles up along the side of your body so that the tip of the handles extends no higher than your shoulder. If the handles extend beyond your shoulders, the rope is too long. This will result in excessive drag through the air and on the floor and will reduce the rotational speed of the rope while increasing the frequency of catches and tangles. It will reduce continuous duration, even for lightweight speed ropes. If the rope excessively smacks the surface with each pass or clears your head by more than a foot, it is probably too long and should be shortened. However, the standard length is a guideline, not an exact measurement for all individuals, and you might find that you perform best with a rope slightly longer or shorter than this guideline would indicate.

As you become better conditioned and more proficient at jumping, shortening the rope can help produce even



Jump Rope Basics (continued...)

greater benefits. A shorter rope leaves little room for error and forces the hands and feet to move faster, dramatically increasing rotational speeds. It will also increase whole-body awareness and develop and lightning-fast reflexes.

Body position and grip

Stand upright with your head positioned squarely on your shoulders, focusing straight ahead. Grasp the handle with a comfortable grip. When you turn the rope, make two-inch circles with the wrists. Keep your arms close to your sides, with forearms at a 45-degree angle at waist level.



Shadow jumping

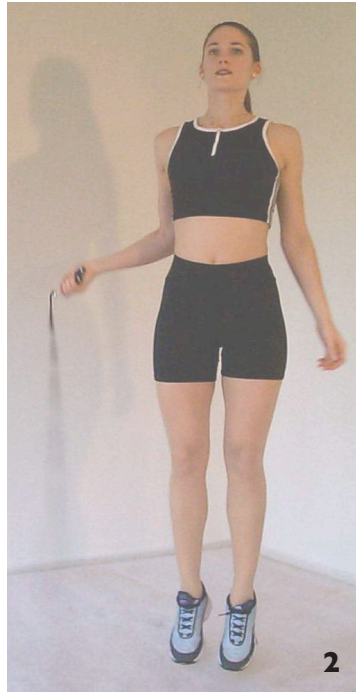
Shadow jumping is a simulation of jump rope, without the rope. It is the first step in learning proper jump rope technique and helps teach you how to jump less than an inch from the jumping surface and land lightly on the

balls of the feet. This is the progression you will use to learn and practice both of the jump styles described in the following section (the basic bounce step on both feet and the alternate-foot step).

Now let's get ready to prepare the mind and body to perform the perfect jump.

1. First practice the take-off and landing phase of jump rope without the rope, while making small circular movements with the wrists. Stand upright and bounce lightly and evenly on the balls of your feet, simulating the movement of a boxer bounce, no more than one inch from the surface. Keep your arms close to your sides and make small circles with your wrists. Keep your head square on your shoulders and look straight ahead. Bounce back and forth, moving in all planes—forward, backward, and lateral—until you can barely hear your feet making contact with the surface.

2. The next step is to jump as in step 1 while holding both handles of the rope in one hand and swinging the rope in a forward circle out to the side of the body, in a windmill motion, in time and rhythm with each jump.

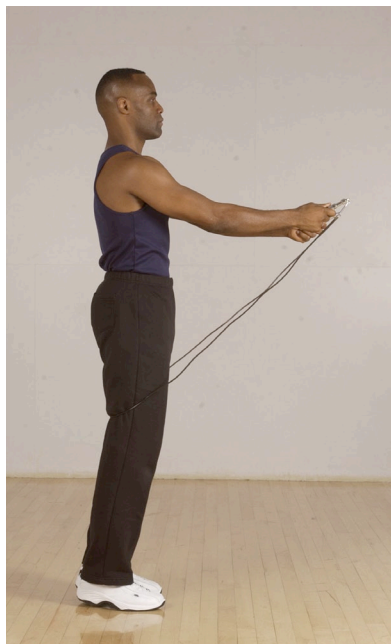


Jump Rope Basics (continued...)

3. Introduce the rope into the jump by getting into the starting position with the rope resting behind the knees. From there, practice swinging it forward in a nice even arc over the body. Rehearse these movements to develop muscle memory and timing. Simulate first the basic bounce step for one minute and then the alternate-foot step for one minute. All jump rope skills can be learned from this progression.

The two basic techniques

During the preparation phase you must first master the two basic skills, the basic bounce step and the alternate-foot step, before learning other training techniques. In the first two weeks, the emphasis should be on technique, not speed. Practice the basic bounce step and alternate-foot step up to a total of 5 to 10 minutes twice a day. Depending on your current skill level, begin with as few as 1 to 5 or 5 to 25 jumps per jumping bout. Jump and rest in a 1:2 ratio (e.g., jump 30 seconds, rest 60 seconds). As your technique and jumping capacity improves, add 10 to 20 jumps to each jumping bout and shift your jump to rest ratio closer to 1:1 (e.g., jump 60 seconds, rest 60 seconds). By the end of the second week, you should be able to jump 120 to 140 times without a miss. Remember to focus on skill and continuous jumping while you are progressing at a comfortable rope speed. Stretch after each session, calves especially!



The *bounce step* and *alternate-foot step* are two basic jump rope techniques that will provide the foundation for the rest of your jump rope training. In addition, these techniques will improve your conditioning level, reinforce proper jump rope form and create the muscle memory necessary to master the foot patterns of other basic training techniques.

Bounce step

The bounce step is simple and effective. Time the swing of the rope while jumping with both feet. When turning the rope, make small circular movements and let the wrists do most of the work, keep body erect and look straight ahead. Jump only high enough to clear the rope. Start at a natural jump rope speed until the fundamental motor pattern becomes automatic. Remember, practice improves the coordination and speed of the rope swing with every jump.

1. Jump approximately 1 inch from the surface, or just high enough to clear rope.
2. Land lightly on the balls of your feet.
3. Do not let heels touch the ground on landing. Stay up on the balls of your feet and reload to repeat steps 1 and 2.

Begin with just one jump and swing at a time to establish timing and rhythm for the perfect jump and landing. Then increase by five jumps per set. As you get more proficient, keep adding jumps per set until you can eventually perform 140 jumps without a miss. Master the bounce step before attempting the alternate-foot step.

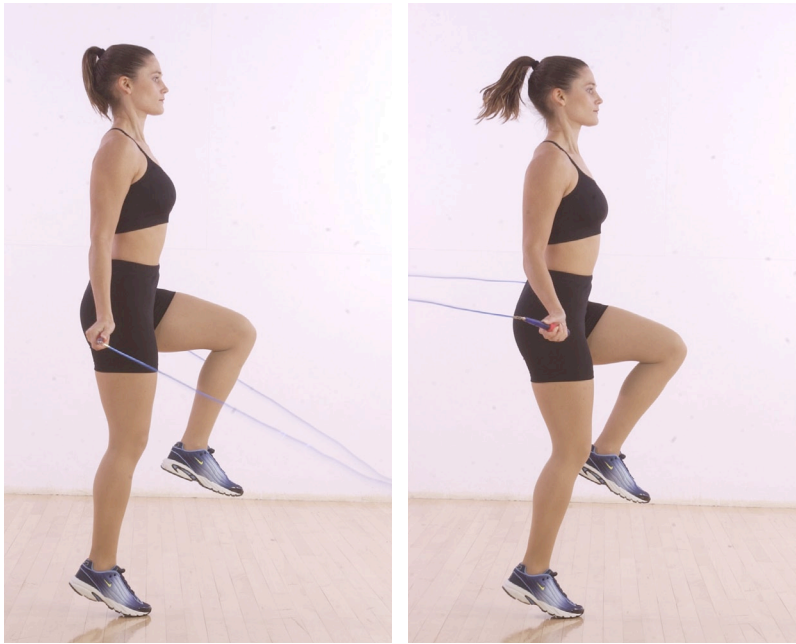
Alternate-foot step

The alternate-foot step is to the bounce step, except that, instead of jumping with both feet at once, you alternate feet, as if running in place. Jump a little higher than an inch from the surface. Start off by performing this jump without the rope; just practice alternating feet in place, using high knee action but staying on the balls of your feet. Next hold both handles on one hand and turn the rope out to the side of body in sync with your feet

Jump Rope Basics (continued...)

while alternating them; left, right, left, right. Jump by raising the knees to the front. Be careful to not kick your feet backward or behind you, as they will catch on the rope.

Finally, combine the rope swing with the jump. From the starting position, rest the rope behind your knees, with your right knee up. After jumping over the rope with the left foot, be sure to wait for the rope to pass over your head before jumping over it again with the right foot. Repeat this cycle only twice (left, right) until you master it; then work to repeat it four times (left, right, left, right), once you can do that consistently, then begin to work on continuation. Continue alternating feet (lifting knees as if jogging in place) at a slow pace until you establish a comfortable jumping rhythm.



Introduction to
Jump Rope



Fixing the Basic
Bounce



Buddy Lee is a U.S. Olympian in wrestling (1992), the author of the book *Jump Rope Training*, the inventor of the U.S. Olympic Team official licensed jump ropes, the owner of [Jump Rope Technology](#), a two-time Marine Corps athlete of the year, a motivational speaker, and the world's leading jump rope training expert.