

Rocker Board Training

Introduction:

- A *rocker board* is a rectangular platform with two half circles spaced at either end, underneath the board, that allow the rider to tilt in only one plane or two directions. The direction of instability can be varied from front-to-back or side-to-side, depending on how you position your foot relative to the half circle. Balancing is perhaps the simplest, but most effective, stationary exercise to improve balance and proprioception. Proprioception is a part of the Somatic Sensory Nervous System that allows you to sense the positioning of your body parts in space using external sensors in the skin and internal sensors within the joints.
- For individuals who engage in a sport, a primary area of concern - from both an injury-prevention and training standpoint - would be the structures of the foot, ankle, and lower part of the leg (including the muscles, tendons, ligaments, bones, and cartilage in those areas). All of these anatomical components help to stabilize and control the gait cycle immediately after the foot hits the ground. Rocker board exercises mimic what happens to the muscles, tendons, and ligaments to fortify them for the stresses they must endure. These structures are under constant stress and undergo considerable, and repeated, loading even during short burst, with a force equal to two to three times one's body weight with each step. Athletes have become increasingly aware that they need to strengthen the lower parts of their legs, and they are also beginning to realize that if they can more effectively coordinate their actions they will be able to develop more explosive and powerful push-offs and thus longer strides, leading to gains in performance.
- Have you heard how people keep spraining their ankles once the initial injury occurs? This occurs with all injuries, if part of the damage is to the sensors which track our motion. This is an example of the joint with memory loss which causes dis-coordination, instability, vulnerability, and thus further trauma. A rocker board will train the joint to remember its movement range, coordination of that movement, as well as increase your overall balance.

Beginner:

Warm-Up Regiment: Range of Motion and Posture Awareness

- Place the board ***width wise***, the longest portion being from left to right, in front of you, near a door frame or other hand hold, because it is important to push this range use a hand hold.
- The **goal** of this activity is to teach the ankle joints how far they can move, so that when you balance your body knows how much movement is possible before other joints must compensate to maintain balance.
- Always tighten your abdominal muscles, drop your shoulders down and back, and grip the board with your toes before beginning any exercise.
- Step on to the board, feet shoulders width apart, and make note that your feet are aligned straight – inside of the heel should line up behind the big toe.
- Rock forward as far as you can until your toes almost touch the ground. Hold this position for 30 seconds.
- Return to neutral, hold for 30 seconds.
- Now rock back as far as you can or until your heels almost touch the ground (the heels should keep in contact with the board). Hold for 30 seconds.

Balance Regiment (no hands!)

- It is important to slightly bend the knees, keep an upright posture, and grip with the foot “short foot” during these exercises.
 - In between each exercise rest by rocking heel-toe, for 30 seconds.
 - Closing your eyes removes visual cues and particularly enhances your proprioceptive sense, i.e., your ability to accurately judge the position of your body in space. This increased awareness can help you improve your coordination and efficiency of movement.
1. Neutral Balance: Balance in *neutral*, without major deviations, for 60 seconds.
 2. Heel Balance: Balance in the *heels down* position, without major deviations, for 60 seconds.
 3. Toe Balance: Balance in the *toes down* position, without major deviations, for 60 seconds.
 4. Neutral Balance – Eyes closed: Balance in *neutral*, without major deviations, for 60 seconds.
 5. Heel Balance – Eyes closed: Balance in the *heels down* position, without major deviations, for 60 seconds.
 6. Toe Balance – Eyes closed: Balance in the *toes down* position, without major deviations, for 60 seconds.

Coordination Regiment (no hands!)

- In between each exercise rest by rocking heel-toe, for 30 seconds.
 - These exercises focuses on firing patterns learned as an infant to stabilize our core for creeping/crawling and later walking.
1. Two Leg Squat: Squat by dipping the buttocks back and down, spine neutral, knees should never pass the toes. Begin with a 2 shallow dips held for 5 seconds, then perform 8 reps.
 2. One Leg Squat: Begin the exercise by standing on one leg, flexing the opposite knee (stork/flamingo stance). Perform 8 reps, as described above, for each leg.
 3. Crossed Extension: This exercise is performed always with opposite arm and leg. Start by standing on one leg, while the other leg is flexed at the hip and knee. Place the hand, opposite the knee that is elevated in front of you, on the elevated knee, “START position”. Perform the exercise by moving the bent leg into extension behind you, like tapping the toe in the air behind the rocker board; while at the same time the opposite arm moves away from the knee to above the head, the arm should stay straight and move close to the ear. This new position is the “END position”. Continue the exercise by performing 8 reps, each side.
 4. Two Leg Squat - Eyes Closed: Perform 8 reps as above, but with eyes closed.
 5. One Leg Squat - Eyes Closed: Perform 8 reps as above, for each leg, but with eyes closed.
 6. Crossed Extension – Eyes Closed: Perform 8 reps as described above, each side, but with the eyes closed.

Intermediate:

Warm-up Regiment: Range of Motion and Posture Awareness

- Place the board ***length wise***, the longest portion being from heel to toe, in front of you near a door frame or other hand hold, because it is important to push this range use a hand hold.
- The **goal** of this activity is to teach the ankle joints how far they can move, so that when you balance your body knows how much movement is possible before other joints must compensate to maintain balance.
- Always tighten your abdominal muscles, drop your shoulders down and back, and grip the board with your toes before beginning any exercise.
- Step on to the board diagonally with one foot, then the other. Now straighten the feet so that they are at the outer edge of the board, and make note that your feet are aligned straight – the inside of the heel should line up behind the big toe.
- Rock to the left as far as you can, until the board almost touches the ground *or* the right heel rise out of contact with the board. Hold this position for 30 seconds.
- Return to neutral, hold for 30 seconds.
- Now rock to the right as far as you can, until the board almost touches the ground *or* the right heel rise out of contact with the board. Hold for 30 seconds.

Balance Regiment (no hands!)

- It is important to slightly bend the knees and keep an upright posture during these exercises.
- In between each exercise rest by rocking left-right, for 30 seconds.
 1. Neutral Balance: Balance in *neutral*, without major deviations, for 60 seconds.
 2. Left Side Balance: Rock to the *left*, to the point before the *right* heel loses contact with the rocker board, balance in this position for 60seconds.
 3. Right Side Balance: Rock to the *right*, to the point before the *left* heel loses contact with the rocker board, balance in this position for 60seconds.
 4. Neutral Balance Eyes Closed: Perform as described above, but with your eyes closed.
 5. Left Side Balance Eyes Closed: Perform as described above, but with your eyes closed.
 6. Right Side Balance Eyes Closed: Perform as described above, but with your eyes closed.

Coordination Regiment (no hands!)

- In between each exercise rest by rocking left-right, for 30 seconds.
 - These exercises focuses on firing patterns learned as an infant to stabilize our core for creeping/crawling and later walking.
1. Two Leg Squat: Squat by dipping the buttocks back and down, spine neutral, knees should never pass the toes. Begin with 2 shallow dips held for 5 seconds, then perform 8 reps.
 2. Two Leg Squat - Eyes Closed: Perform 8 reps as above, but with eyes closed.
- For the next set of exercises, you step ***diagonally*** on to the rocker board, with only one foot.
 - In order to effect the joints and muscles equally, *utilize both* left-right and right-left diagonals (this means 2 sets for each leg = 16 reps each leg).
3. One Leg Balance: Balance on one leg for 60 seconds, without major deviation from neutral. Repeat on the other diagonal, and then the other leg.
 4. One Leg Balance Eyes Closed: Perform as described above, but with the eyes closed.
 5. One Leg Squat: Begin the exercise by standing on one leg, flexing the opposite knee (stork/flamingo stance). Perform 8 reps, both diagonals for each leg.
 6. One Leg Squat - Eyes Closed: Perform 8 reps as above, for each leg, but with eyes closed.
 7. Crossed Extension: This exercise is performed always with opposite arm and leg. Start by standing on one leg, while the other leg is flexed at the hip and knee. Place the hand, opposite the knee that is elevated in front of you, on the elevated knee, “START position”. Perform the exercise by moving the bent leg into extension behind you, like tapping the toe in the air behind the rocker board; while at the same time the opposite arm moves away from the knee to above the head, the arm should stay straight and move close to the ear. This new position is the “END position”. Continue the exercise by performing 8 reps, each diagonal for each leg.
 8. Crossed Extension – Eyes Closed: Perform 8 reps as described above, but with the eyes closed.

Advanced:

Combined Balance & Coordination Regiment (no hands!)

- These exercises focus on firing patterns learned as an infant to stabilize our core for creeping/crawling and later walking, while strengthening core muscle groups with increasingly difficulty of movement pattern.
1. Lunge Width Wise: Address the rocker board with the *longest portion from side to side*. Standing 2-3 feet away, facing the rocker board. Perform the lunge, by standing with your feet shoulder-width apart. Take a long step forward, landing with the heel first, onto the rocker board. Slowly lower yourself until your back knee nearly touches the ground. At first, balance your body weight between your front and back legs so you feel the stress in both. As you become more comfortable with the movement, shift the emphasis of the weight toward your front leg. Then return to the starting position by pushing upward with the front leg. Perform 8 reps per side.
 2. Lunge Length Wise: Address the rocker board with the *longest portion from toe to heel*. Perform as described above.
 3. Lunge Diagonally: Address the rocker board *from each diagonal*, as described previously. Perform the lunge exercise as described above.
 4. Lateral Stepping Width Wise: Begin the exercise by standing on the rocker board. Perform the exercise by stepping off to the side with one foot, alternating sides. Complete 8 reps, both sides equal to one rep.
 5. Lateral Stepping Length Wise: Begin the exercise by standing on the rocker board. Perform the exercise by stepping off to one side with one foot, alternating sides. Complete 8 reps, both sides equal to one rep.
 6. Lateral Stepping Width Wise, Eyes Closed: Perform as described above, but with your eyes closed.
 7. Lateral Stepping Length Wise, Eyes Closed: Perform as described above, but with your eyes closed.
 8. Jumping On/Off: Position the rocker board width wise, *longest portion from side to side*, in front of you. Start by jumping onto the rocker board from less than 6 inches away. Perform 8 reps. Increase jump distance to two feet, in increments of 6 inches.
 9. Push-ups: Perform 8 reps, while hands grip the edges of the rocker board, both in width and length positions.

10. Triceps Dips: Sit in front of the rocker board, either width or length position, with your legs extended in front. Reach behind you and contact the sides of the rocker board. Once you gain your balance, lift your weight by straightening the elbows and then return to the starting position-dipping. Do not rest on the board while in the dipped position.
11. Extended Plank: Lay down on your stomach, on the rocker board, with the board at about your navel. Move into balancing position by extending the back and extending the lower limb (the heels should not rise more than 12 inches above the buttock. Balance over you tightened abdominal muscle for 8 reps of 15 second holds.
12. Incorporation: Now that you have mastered the above exercises, you qualify to continue training yourself by incorporating any other specific exercise that you perform in a weight bearing position, as well as, with additional weights. Be safe and good luck!