The Two-To-One Ankle Rockboard
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Over the past 30 years, a variety of ankle rock boards have been developed to treat and prevent ankle sprains. Identifying the most effective way to manage ankle sprains is especially important considering that in the US alone, 23,000 people sprain their ankle each day, resulting in 1.6 million doctor office visits annually (1). The direct and indirect costs (e.g., lost days from work) associated with treating ankle sprains exceed $1.1 billion annually (2). To make matters worse, these numbers do not take into account the long-term disability often associated with ankle sprains. In a 10-year follow-up of patients suffering ankle sprains, 72 percent showed signs of arthritis in the ankle joint (3).

The poor long-term outcomes following ankle sprains has a lot to do with ineffective treatment protocols initiated after the sprain occurs. To date, the most widely prescribed treatment for an ankle sprain is RICE: rest, ice, compression, and elevation. Unfortunately, the only useful component of RICE is compression: ice, elevation, and rest are pretty much useless in the management of ankle sprains. While compression is effective for the short-term reduction of swelling, the most important aspect of post-sprain management is to safely move the sprained ankle through a full range of motion. The rapid restoration of motion prevents the formation of scar tissue that can go on to cause chronic pain and disability.

To restore motion following an ankle sprain as quickly and safely as possible, rehab specialists prescribe ankle rock boards. The overwhelming majority of these boards pivot about a central balance point that causes the board to tilt equally in all directions. Most commonly, conventional ankle rock boards tilt 16° in each direction. The problem with the 16° tilt is that it does not match joint motions present in your foot and ankle. Because the human foot tilts in twice as far as it tilts out (Fig. 1), to be effective, an ankle rock board should tilt with a two-to-one movement ratio. The two-to-one movement ratio places your foot in the position of a future sprain and then forces you to use your muscles to pull yourself out of the risky position.

Figure 1.

10 degrees pronation  20 degrees supination
In a conventional ankle rock board with its 16° tilt, you roll in too far and you then rollout through an inadequate range of motion. Numerous studies have demonstrated that moving through a partial range of motion will not improve performance through the full range of motion (4,5). This is especially true for strength gains, as research shows that strengthening muscles in their lengthened positions can produce as much as a fourfold increase in strength compared to exercising muscles in their neutral or shortened positions (6).

When comparing the Two-To-One Ankle Rock Board to other rock boards, you’ll immediately feel that it more effectively exercises the muscles of your lower leg (particularly with the advanced drill) and works to maintain a full range of ankle motion. If you are using this device to treat a recent sprain and/or an unstable ankle, consult your healthcare provider prior to using this rock board to find out which protocol is appropriate for you.

**Stage 1**

This stage is typically only performed when treating acute injuries. Because of this, it is recommended that you use an ankle wrap, such as the Swede-O Universal or an Air Cast, during this and all other stages of rehabilitation. While seated and wearing sneakers, position the ankle rock board in front of your chair with your feet perpendicular to the abrasive strap (Fig. 2). Gently rotate the ankle rock board so its edges touch the ground. Don’t worry if you can’t get the edges to touch initially, as this will get easier as your ankle improves. Slowly move the rock board through this range of motion for 1 minute clockwise and 1 minute counterclockwise. Repeat every 3-4 hours and keep a compressive wrap on the ankle throughout the day. The easiest way to make a compressive wrap to place an ace bandage around the ankle and then place an Air Cast over the Ace bandage. If using the ankle rock board causes anything but mild discomfort, discontinue use and consult your healthcare provider.

**Stage 2**

Again, while seated and wearing sneakers, turn the ankle rock board 90° and place your entire foot over the abrasive strip with the arch pointing towards the longer side of the board (Fig. 3). Slowly move the ankle rock board so its edges touch the ground. To ensure the ankle moves easily in all directions, adjust your foot so it is positioned directly over the top of the ball. This is accomplished by stabilizing the board with toes of the opposite foot and making slight adjustments until the rock board foot is positioned directly over the center of the ball (Fig. 4). With a little practice,
the balance point becomes obvious allowing the foot to move smoothly in all directions. Rotate the rock board through a full range of motion for 60 seconds clockwise and 60 seconds counterclockwise. Repeat this at least 3 times per day.

![Figure 3.](image)

Stage 3

You can only progress to stage 3 when you possess adequate balance and strength to move through a full range of motion in stage 2 without discomfort. Your hands must be supported against a wall during this exercise and the ankle rock board should be on a stable surface. As with stage 2, it is almost always necessary to initially adjust the rock board foot so it is over the center of the ball. Move the rock board through a full range of motion for 60 seconds clockwise and 60 seconds counterclockwise (Fig. 5). Repeat at least 3 times per day and keep your weight-bearing hip and knee straight while using the rock board.

![Figure 5.](image)
Stage 4

This is an advanced stage for aggressively strengthening the foot and ankle muscles. With your hands supported against a wall, place your forefoot directly over the center of the ball with the inside of the foot pointing towards the long side of the rock board (Fig. 6). As always, adjust the position with the opposite foot to ensure you are over the center of the ball. Rotate the ankle rock board so the edges contact the floor. Perform 3 sets of 15 repetitions, alternating every 10 revolutions between clockwise and counterclockwise directions. This exercise is completed by performing a 30-second calf stretch.

![Figure 6.](image)

Warning and Disclaimer

User assumes all risks associated with use of the Two-To-One Ankle Rock Board. Because people with unstable ankles are prone to injury, user must get permission from a healthcare provider to determine which stage of rehabilitation is most appropriate. Because injury may result from inappropriate use, such as placing on an unstable surface, using barefoot and/or being poorly stabilized by not resting your hands against a stable surface, all of which is beyond control of the manufacturer and distributor, user assumes all risks. The Two-To-One Ankle Rock Board is designed to strengthen leg muscles and increase range of motion in the ankle. Should the user feel that this result is not achieved, the manufacturer will refund the purchase price. Under no circumstances shall the buyer be entitled to damages associated with the use of this product. Use of this product constitutes agreement to these terms.
References:


