



STICK THE LANDING

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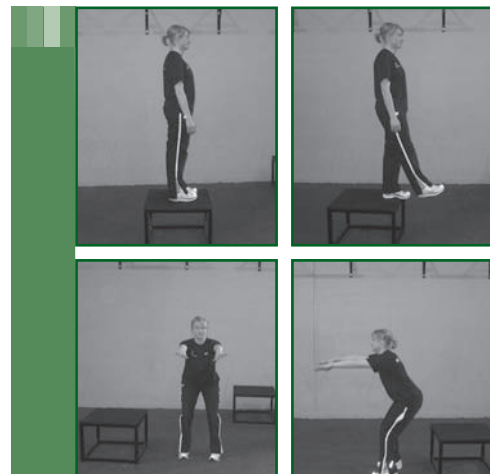
We've all heard of the saying, "What goes up, must come down," this is especially true in gymnastics. Gymnasts spend countless hours twisting and turning their bodies, all culminating with some type of landing. With the hours gymnasts spend in training to prepare for competition it is important that they learn to land correctly. Allowing our athletes to land incorrectly over a period of time puts them at greater risk for lower extremity injuries; such as, ankle sprains and fractures as well as knee tendonitis and ACL tears. In order to remain healthy the athlete must be able to absorb force in the correct fashion. I believe our job is to help reduce the chance of injury while enhancing the performance of these athletes. Reduce the chance of injury and obtain a great score, sounds like a win-win to me.

The goal is to teach the gymnast to correctly absorb the force as they land. One issue includes front side load-landing with knees coming out over the toes. This can occur because of the athlete's coordination or lack there-of. Another concern is poor backside hip strength as well as hip mobility and stability, all leading to poor landing mechanics. Meager hip flexor flexibility and/or poor ankle mobility will also affect the landing ability of an athlete. These issues all lead to improper landing mechanics resulting in a greater risk of injury. Allowing the posterior chain (hamstrings, glutes, and hips) to take the majority of the load can reduce the likelihood of injury and keep your athletes in the gym.

Next we will address the exercises that you can incorporate into your program that will allow your athlete to land with correct mechanics. Remember that we have to think about the body from a holistic mind-frame. It is important that we continue to stress

the importance of correct landing, the following exercises will aid in making sure your athletes are landing with correct form. Remember that the hips can handle much more repetitive load than the knees and ankles.

1. Box Jump Downs- To execute this exercise have an athlete step on top of a box no higher than 18 in. to ensure correct technique. The athlete will then step off to jump down, landing with correct form. Back flat, knees over the toes and weight distributed evenly over the feet. Abdominals are braced and glutes activated so they can hold perfect posture. Make sure that the athletes' knees are not caving in and shoulder blades are pulled back and down. It is paramount that we stress back-side loading so that we take the stress off the front side. When proper form is attained, you can progress to higher boxes. See Figure (1-4) Exercises 2-7 are exercises that will help your athlete obtain the correct landing mechanics that we are after.



FIGURES 1-4

2. Front Plank/Right Side/Left Side-These exercises will help create pillar (shoulder/core/hips) stability and strength, essential in holding total body posture upon landing. Depending on the strength of the athlete, these positions can be held for 10-30 seconds. See Figure (5,6)

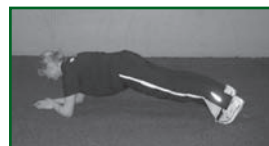


FIGURE 5



FIGURE 6

3. Glute Bridge- Great for activating and developing the backside firing patterns of the glutes. It is essential to teach the gymnast how to activate these muscles. The athlete will begin by lying on his/her back, the knees are bent at 90 degrees and the feet are flat on the floor. Next, the athlete will press his/her hips toward the ceiling by firing the glutes. The key is to ensure the athlete is gaining extension via the hips and not the lumbar spine. This exercise should NOT be felt in the lower back or hamstrings. See Figure (7,8)



FIGURE 7

FIGURE 8

4. Quadruped Hips (Fire-Hydrants)- To execute this pattern the athlete will have his/her hands on the ground placed right underneath his/her shoulders and knees directly under his/her hips. While maintaining a flat back and abdominals braced, the athlete will lift his/her leg, keeping the knee bent, out to the side for the prescribed number of reps; 15-20 reps. per side are sufficient. The objective of this exercise is to stabilize the torso and create mobility and strength in the hips. See Figure (9,10)



FIGURE 9

FIGURE 10

5. Side-Lying Leg Raises- Aids in activation and stabilization of the hip. The athlete lies on his/her side while resting his/her head in hand. While maintaining proper posture the athlete will lift his/her leg towards the sky feeling it in the hips. This will help recruit the hips so the athlete can use the backside to absorb the force upon landing. See Figure (11,12)



FIGURE 11

FIGURE 12

6. Ankle Mobility- This exercise will help with the mobility and flexibility of the ankle and surrounding musculature. Additional dorsi-flexion gives the athlete a better chance at a mechanically correct landing. To execute this movement have the athlete find a place on the wall. The

athlete will take a split stance and extend one leg back with the foot flat on the floor. The front foot will be flat on the ground with the toe against the wall. Next the athlete will push the hips towards the wall and the back heel towards the ground. The athlete should feel the exercise in the hip flexor and calf muscles of the back leg. See Figure (13,14)



FIGURE 13

FIGURE 14

7. Forward Lunge/Elbow in-Step- Improves the flexibility of the hips, hamstrings, lower back, and the often tight hip flexors. The athlete will begin in a standing position. The athlete will take a huge lunge step forward with the right leg and the left hand is placed on the floor. Then take right elbow and place it on the in-step of your right foot while keeping the back knee on the ground. Repeat this exercise with the left leg. This is a great exercise for the hip-flexor. See Figure (15,16)



FIGURE 15

FIGURE 16

Remember that we should use the posterior chain to absorb the force from landing. It is paramount to the health and well-being of the athletes. Time spent in the training room is time away from training. Not only will you feel better but your body will thank you in the long run. ✖