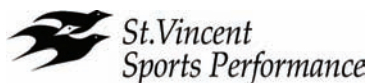




ROTATION, ROTATION, ROTATION

Part 2- Rotational Strength



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In the previous Rotation, Rotation, Rotation article we discussed the importance of including rotational core exercises in the strength training of gymnasts. The sport of gymnastics involves quick and powerful bursts of movement in many planes, therefore strength training for gymnasts should include exercises in multiple planes. Coaches and trainers should heavily consider including core exercises that challenge the rotators of the trunk and hips, both in stability and strength. The primary type of exercises that were illustrated in Rotation, Rotation, Rotation part 1 were mostly rotational stability exercises. The importance of training muscular control and stability before training excessively in strength alone was noted in the previous article. It is of up-most importance to train an athlete that lacks an ideal amount of musculoskeletal control in the core (torso and hip muscles), with exercises that target rotational stability before rotational strength.

ROTATIONAL STRENGTH

By strengthening the gymnasts' rotational core muscles (internal obliques, external obliques, quadratus lumborum) we give their body a better chance to withstand all of the compressive, rotary and shearing forces that their bodies are subject to on a daily basis.

Here are a few exercises to challenge the development of your athletes' rotary strength.

1. KNEELING DOWNWARD CHOPS. This exercise can be performed with an elastic cord, cable or pulley system (i.e. using a Keiser, Free Motion Pulley machine or free-weight pulley system). Have athletes get in a half kneeling position and kneel with their right knee up and their left knee down.

They should balance by keeping their right foot flat into the ground creating a 90-degree angle at the thigh and shin, the ball of their left foot placed firmly into the ground, and their torso in an upright position with their abdominals held tight. With their body perpendicular to the line of the cord or cable (the resistance is closest to the right side of their body), have them reach up high over their right shoulder and grasp the handles with both hands. Athletes need to keep their torso upwards while they pull the cord or cable downward, in front of their body, toward their left hip. While executing this exercise have athletes focus on keeping their arms straight throughout the whole movement, and moving the resistance with their core. Have the athlete pull downward, or contract, with a quick powerful effort while returning upward in a controlled manner. Repeat on the other side of the body with left knee up, right knee down, and pulling from the left shoulder, in front of the body, and towards the right hip.

Kneeling Downward Chops



Exercise Description: In a half kneeling position, pull the cord across the body in a diagonal pattern towards the opposite hip. Keep arms straight, and posture upright. 3-5 sets of 5-10 repetitions.

2. KNEELING UPWARD CHOPS. Using the same apparatus as the above mentioned chops, set the cable or elastic cord to a lower position-almost touching the floor. The athlete will assume the same half-kneeling stance position again, however this time start with right knee down and left knee up. Have athletes balance their body again with the left foot flat on the ground creating a 90-degree angle between the thigh and shin, and pressing the ball of the right foot firmly into the ground. With the body perpendicular to the resistance (resistance is closest to the right hip side of the body), have them grasp the handle with both hands. While keeping arms in a locked position have them contract their abdominals while pulling across their body and in an upward position towards their left shoulder. Again the athlete contracts and pulls upward with power, and controls the speed of the resistance as they move back downward.

Kneeling Upward Chops



Exercise Description: In a half kneeling position, pull the cord across the body in a diagonal pattern towards the opposite shoulder. Keep arms straight, and posture upright. 3-5 sets of 5-10 repetitions.

3. STANDING ROTATIONS. This exercise can also be performed with an elastic cord, cable or pulley system (i.e. using a Keiser, Free Motion Pulley machine or free-weight pulley system) tubing. Have the athlete stand perpendicular to the line of pull of the cord, cable, or pulley with a hip width stance, knees slightly bent, hips slightly shifted back, and with abdominals braced tight. The athlete should grasp the handle with both arms extended, and pull the cord, cable or pulley with straight arms,

from one side of the body to the other. The athlete should focus on pulling from the core not the arms, with effort on the way out against the resistance and control on the way back in towards the machine.

Standing Rotations



Exercise Description: In a partial squat position, pull the cord across the body towards the opposite side. Keep arms straight, and posture upright. 3-5 sets of 5-10 repetitions.

4. SIDE-LYING ROTATIONAL CRUNCH.

Have the athlete lay on his/her side on a Glute/Ham machine, Roman chair, training table, bench, blocks, etc. The upper body of the athlete performing this exercise should be free, while legs are held fixed either by the machine, or a person holding the legs down (if done on a training table, bench, or large blocks, etc., it is best to have a person of similar or greater body weight sit on the working athlete's legs to ensure that they will not fall. The athlete will then reach down toward the side of his/her body closest to the floor with the opposite arm, and then reverse this by contracting upwards toward the side of his/her body closest to the ceiling with the opposite side arm. The athlete should perform these with good body control, and focus on staying braced in his/her abdominals.

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Side-lying Rotational Crunch



Exercise Description: In a side-lying position with legs fixed, rotate and reach both downward and upward leading with the opposite side arm. 3-5 sets of 5-10 repetitions.

5. ELEVATED ROTATIONAL SIT-UP. Similar to side-lying rotational crunch, the athlete needs to have his/her lower body in a fixed position. In a face up position lower the torso downward in a controlled manner, until the upper body is in a straight line with the lower body. At the bottom of the movement rotate the torso to the left and the right before flexing upward to the starting position. The athlete should focus on not allowing a lot of low back arching (lordosis) while at the bottom of the movement. If the coach or athlete notices an excessive amount of lordosis at a particular range of depth on the downward phase of the movement, have the athlete execute the rotations at a higher angle. It is very important to not cause any low back strain, or shift a high demand of work on the hip flexor muscles instead of the flexors of the torso.

Elevated Rotational Sit-up



Exercise Description: In a face up (supine) position with legs fixed, extend backward in a controlled manner, rotate from side to side then flex upward. 3-5 sets of 5-10 repetitions.

CONCLUSION

Gymnasts put a lot of stress on their bodies during their training sessions and competitions. Taking the time to incorporate rotational exercises in both stability and strength is a wise investment in the health and performance of your athletes. Optimal core stability and strength are vital traits for these athletes to have in order to aid their bodies in the ability to execute movements, absorb possibly detrimental forces, and aid in preventing back pain. excessive amount of lordosis at a particular range of depth on the downward. ✘