

Stabilizing and Strengthening Exercises Using Own Body Weight

Viswanatha, T.*

*Assistant professor of Physical Education(c), College of Horticulture, Hiriyur.

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Abstract

The goal of functional muscle strengthening is to encourage adequate body stability, which allows additional sport – specific stress without causing injury and burden. Functional muscle strengthening should not be confused with weight – training, although it does create a basis for it. One of the basic requirements, therefore, is to achieve a stability of the athlete’s body before the body is stressed with additional activity or exercise. Another possibility for increasing athletic load is to perform a group of strengthening exercises that use the athlete’s own body weight. This group of exercises is offered in four sequences of five exercises each. In this way, not only is the endurance increased through many repetitions, but the strength is increased through dynamic movements with only one-third of the repetitions. The purpose of stabilization and strengthening exercises is to counteract one – sided stress, such as occurs in many sports. In addition, weakness of the muscles, poor posture and hyper and hypo mobilization can be corrected or improved. In competitive sports the repeated patterns of certain movements increase with the stress of training and competition.

These exercises are necessary to limit or equalize this imbalance all parts of the exercised thus counteracting the one sided stress on the body strengthening and stabilization exercises also contribute to the lessening of motor dysfunction all help prevent injuries as well as normalize motions.

INTRODUCTION

If an imbalance arises in a body part as a result of inappropriate demands on the body or overexertion, the imbalance can lead to a disruption in the function of the moving apparatus if it is exacerbated by a simultaneous shortening and weakening tendency. The goal of functional muscle strengthening is to encourage adequate body stability, which allows additional sport – specific stress without causing injury and burden. Functional muscle strengthening should not be confused with weight – training, although it does create a basis for it. One of the basic requirements, therefore, is to achieve a stability of the athlete’s body before the body is stressed with additional activity or exercise.

STRENGTHENING: Another possibility for increasing athletic load is to perform a group of strengthening exercises that use the athlete’s own body weight.

STABILIZING: All these exercises can be performed anywhere and without equipment. The exercises are not very fluid and sometimes require unusual concentration and consistency. For all of the exercises, the athlete must follow these guidelines.

- Exercise slowly and precisely
- Do not swing or diverge from the prescribed range of motion
- Hold each position for 5 to 20 seconds
- Cease exercising at the onset of muscle exhaustion
- Increase each set by one to three repetitions
- Keep the duration of the entire set to no loner than 15 to 25 minutes.

Shortened muscles and weakened muscles showing the diagram

Fig. 1 Increased tipping of the pelvis occurring through imbalance in the muscles + = shortened muscles – = weakened muscles

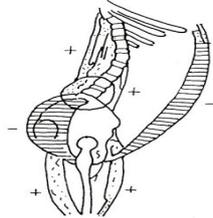


Fig. 2 Recommended exercises for improving pelvis – spinal column stability L =relaxing, K = strengthening.

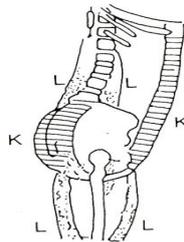
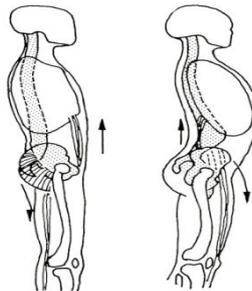


Fig. 3 Change in the pelvis – spinal column stabilization through muscle imbalance.



STABILIZING EXERCISES

Fig. 4 Support the trunk from the supine position the Knee joints should be at a 90-degree angle. Raise the pelves and tighten the entire body.

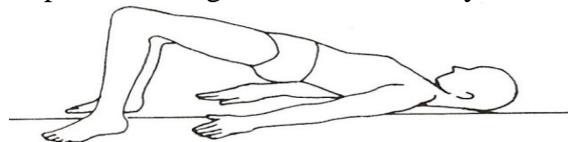


Fig. 5 While in a supportive lying position hold the entire body from the lower legs to the head straight as a board. Keep the elbows bent. Bring the shoulder blade to the spinal column. If this begins to separate the elbows from the trunk, the exercise is not being carried out properly. If the position is unstable, place the knees on the floor.

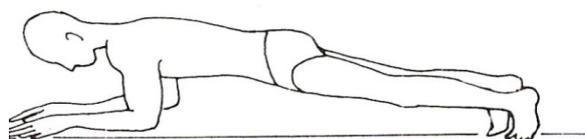


Fig. 6 Resting on the side, support the body with a bent elbow and tighten the entire body.

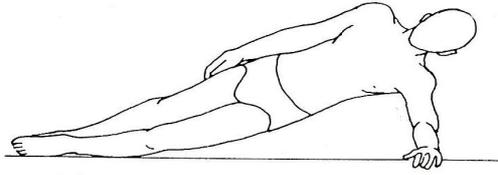


Fig. 7 Support the trunk with the lower arms. This exercise is carried out like a trunk support from the supine position. A complete tightening of the body is achieved only when the shoulders do not sink between the supporting arms.

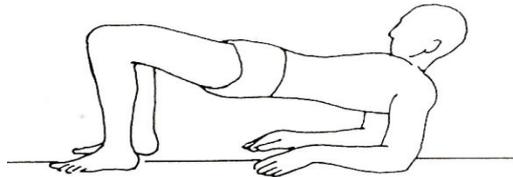


Fig. 8 While in a prone lying position, support the body on the palms of the hands. While bending the arms, keep the body tight. Turn the tips of the fingers to an angle of 45 degrees. To return to the initial pose, stretch the arms and lightly bend the elbows.

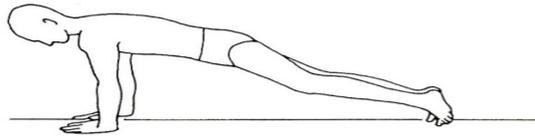


Fig. 9 While lying on the side, support the body with the palm of the hand. This exercise can be achieved if the body is stable. Proceed as in Fig. 6 with stretched arms.

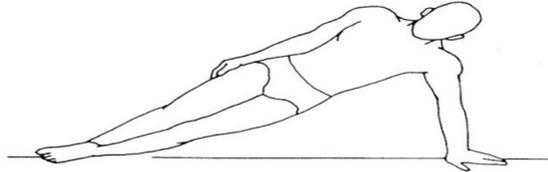


Fig. 10 A more difficult support of the trunk in the supine position. The knee joints should not be bent at a 90-degree angle. Raise the buttocks and tighten the entire body. In addition, raise one leg and stretch it to extend the trunk. A line should be made with the body axis while raising the leg. Do not let the pelvis sink.



Fig. 11 Support the trunk with the lower arms. The exercise is carried out like a trunk support from the supine position. Proceed as in fig. 10, using the elbows as support.

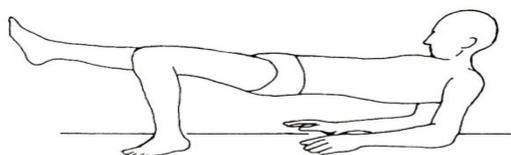


Fig. 12 Lying on the back support body with the elbows, Tighten the entire body.

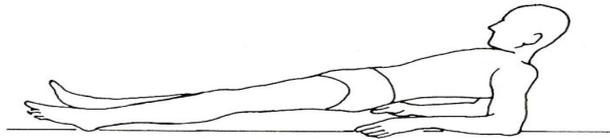


Fig. 13 Lying on the back, support the body with the hands pointing toward the feet. Tighten the entire body; bend the elbows slightly.

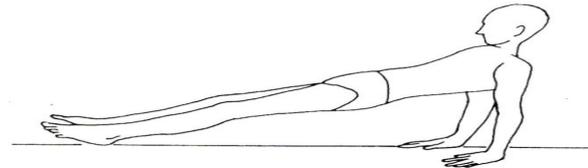


Fig. 14 Pelvic Stabilization

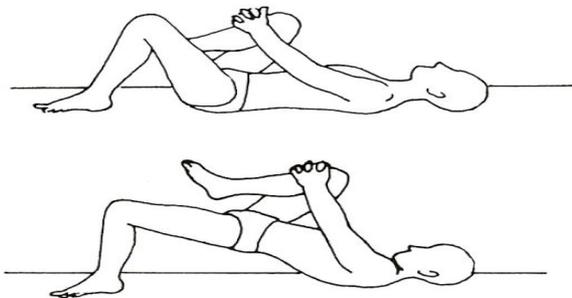


Fig. 15 Shoulder and pelvis stabilization

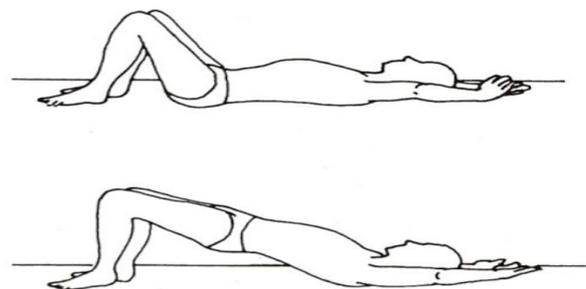


Fig. 16 Trunk Stabilization

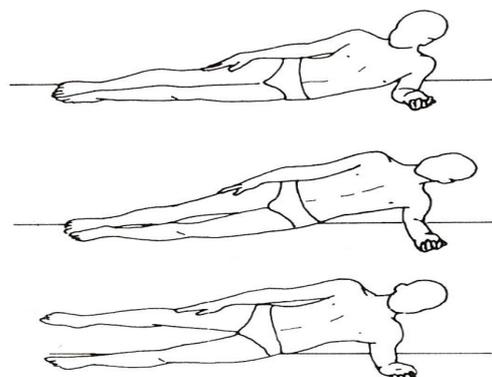


Fig. 17 Full body stabilization

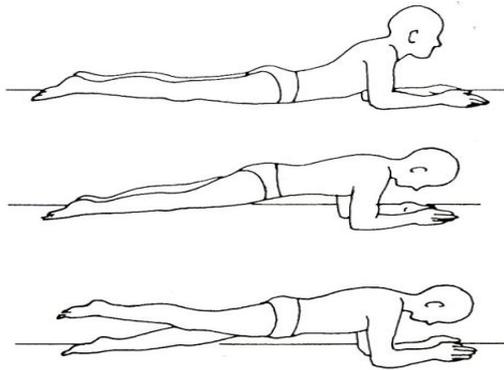
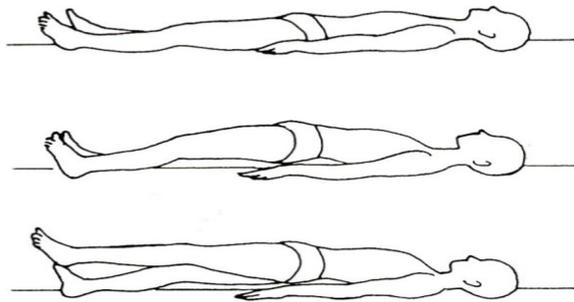
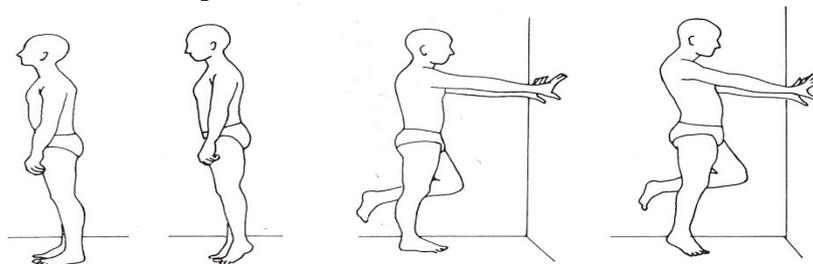


Fig. 18 Full body stabilization



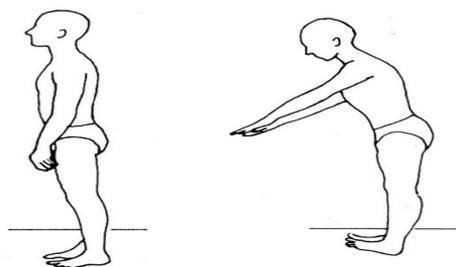
Strengthening Exercises:

Fig. 19 Standing on toes. Left, with both legs (30 times). Center, One leg (each 15 times) Right 30 Seconds up and down on the toes.



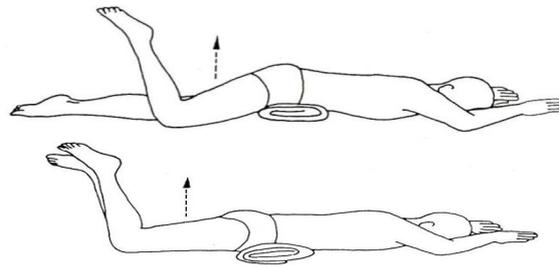
Leg muscles

Fig:20: Resting on heels. Left, Both legs (30 times). Not pictured, One leg (each 15 times). Right, Rock back and forth for 30 seconds (with extended and lightly bent knees).



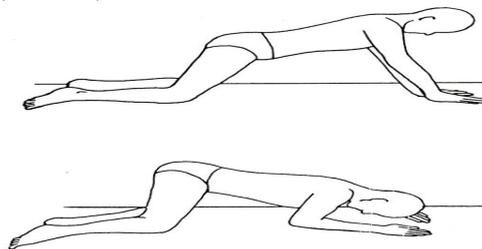
Leg Muscles

Fig. 21 Leg lifts. Top, Lift only one leg (each 15 times). Bottom, Lift both legs (15 times)
 Note: Place a towel under the stomach.



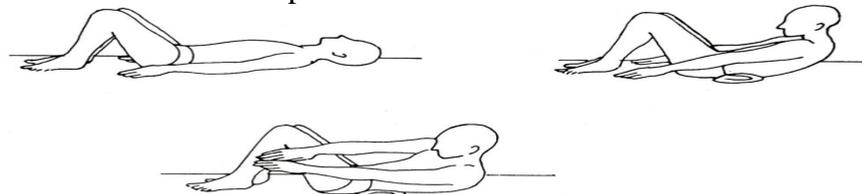
Back Muscles

Fig. 22 In the hands – and – knees position (top), Bend the arms until the head touches the floor (30 times) (bottom).



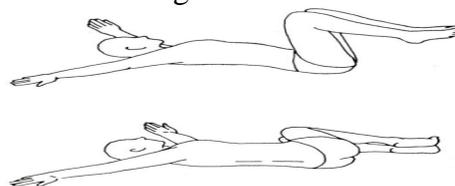
Shoulder and Trunk Muscles

Fig. 23 One roller, Lying on the back with the knees bent (left), bring the torso to a sitting position (10 times) (right). Sit up sideways right and left (each 10 times) (bottom). To increase difficulty place the hands behind the head. Note: Place a towel underneath the lumbar spine.



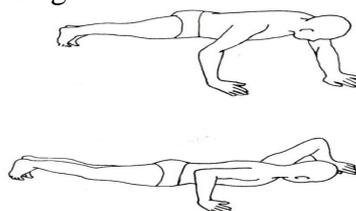
Stomach Muscles

Fig. 24 Pelvis turning lying on the back with the knees up, twist the pelvis (up to 15 times). Advanced: extend the legs.



Stomach and Trunk Muscles

Fig. 25 Push – up in a prone – lying position, raise and lower the body (15 times). Note: Body should be kept straight.



CONCLUSION

The Strengthening exercises incorporate complex form. So they cannot be assigned to single muscle groups, as in the case of stretching muscle. All these exercises can be performed anywhere and without equipment. The sports & games disciplines that increase lordosis, such as Javelin throwing butterfly stroke in swimming, power lifting etc.

The purpose of stabilization and strengthening exercises is to counteract one – sided stress, such as occurs in many sports. In addition, weakness of the muscles, poor posture and hyper and hypo-mobilization can be corrected or improved. In competitive sports the repeated patterns of certain movements increase with the stress of training and competition.

These exercises are necessary to limit or equalize this imbalance all parts of the exercised thus counteracting the one sided stress on the body strengthening and stabilization exercises also contribute to the lessening of motor dysfunction all help prevent injuries as well as normalize motions. The increase in the range of motion also aids in general mobility. The exercises are carried out in the form of holding work for balanced in sports they tend to produce excessive mobility of the spine.

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