Developing Mobility and Stability in the High School Environment

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S U M M A R Y

THIS COLUMN PROVIDES PRACTICAL SUGGESTIONS ON HOW TO DEVELOP BODY MOBILITY AND STABILITY IN A HIGH SCHOOL ENVIRONMENT AS WELL AS HOW TO IMPLEMENT EXERCISES IN A LARGE GROUP SETTING.

As strength and conditioning professionals, everyone has time constraints. Strength coaches typically have about an hour in a session to develop a program that will address all the elements to help students become better athletes. One crucial element is body mobility and stability weaknesses. Some brief practical suggestions will be provided on how to address these issues within a limited amount of time.

According to Cook (1), “Tight and weak muscles can lead to poor joint alignment, and when joints are stiff and not aligned they are not supportive or efficient and do not communicate effectively.” If muscles are not communicating effectively, then athletes are not moving as efficiently as possible. Also, if there is a muscle imbalance such as 1 leg having less strength or range of motion than the other, this imbalance can lead to inefficient movement patterns. This inefficiency can cause compensation in other areas of the body and possibly decrease performance or even increase injury potential (3,4). In group training environments, such as high school, one has limited time and staff to be able to effectively screen for imbalances or weaknesses. The ability to discern imbalances will help the strength coach keep athletes performing to their full potential in all areas.

Although screening is an essential tool and should be used whenever possible, the limits of a high school strength coach working with multiple sports in a short time make this a challenge. Because of this reality, Table 1 includes a menu of possible movements that can be used to help correct imbalances or prevent them from occurring when time for screening may not be easily available.

IMPLEMENTATION

One could use these exercises as part of a directed warm-up led by the coach with emphasis placed on proper technique. For example, in lower body movements such as the single-leg Romanian dead lift (RDL) (Figure 1), one can use a series of questions to train students to pay attention to multiple factors. Do their hips rotate toward the ceiling or stay parallel to the floor? (2) Can they maintain a proper posture by maintaining a tall flat back or do they round their backs? Does excessive lateral or rotational hip movement cause the knees to shift? As students learn the proper technique, they can also assist one another in correcting technique errors. When students use the aforementioned questions and can properly evaluate form, they will be empowered to help coach one another and also develop good communication skills as teammates.

Another option is to include movements as a part of the workout. Certain elements may be included during strength training sessions and others could be included during speed, agility, and quickness training. Some movements could also be included as a finishing exercise therefore providing an atmosphere to also build focus and concentration. When adding exercises to a workout, the coach should provide performance goals, such as a specific number of repetitions to perform during a set. He or she should focus on explaining proper technique and giving a clear demonstration of what the correct movement should look like.

EXERCISE SELECTION

The mobility and stability exercises contained in Table 1 can be divided into 4 primary groups: upper body, lower body, power, and footwork. Four drills that create an environment in which the exercise and test become one would be single-leg RDL (Figure 1), single-leg pushup (Figure 2), kneeling medicine ball passes (1), and the triangle drill (1). As the athlete performs these exercises, the coach will have the opportunity to monitor for imbalances from left to right, stability in...
<table>
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<tr>
<th>Movement</th>
<th>Region Addressed</th>
<th>Coaching Keys</th>
<th>Common Errors (Not Exhaustive)</th>
<th>Exercise Volume</th>
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<tbody>
<tr>
<td>Single-Leg RDL*</td>
<td>Lower body, abdominal, and low back region</td>
<td>Slight bend in knee, extend at hip, maintain flat back and stabilize spine as bend at hip.</td>
<td>Back bends, extend back instead of hip.</td>
<td>Three sets of 10. Increase reps or add sets on weaker leg. Add weight as become more efficient.</td>
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<tr>
<td>In-line lunge (1)</td>
<td>Lower body</td>
<td>Maintain feet straight in line with one another, back knee touches floor behind front heel, avoid raising hip.</td>
<td>Back not flat, hip tilts up and knee turns in.</td>
<td>Three sets of 10. Increase reps or add sets on weaker leg.</td>
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<tr>
<td>Multidirectional lunges</td>
<td>Lower body</td>
<td>See single-leg squat but with both feet maintain contact with floor. Move in forward, backward, lateral or diagonal directions.</td>
<td>Back not flat, hip tilts up and knee turns in.</td>
<td>Three sets of 10 each leg each direction, if can be done with proper technique. Lower reps if needed. Increase reps on less efficient side and focus on proper technique. When technique and endurance mastered, add weight.</td>
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<tr>
<td>Single-leg squat</td>
<td>Lower body/hip imbalance</td>
<td>Front leg knee does not go over toe, drop hips underneath (do not lead with knee), chest up and tall posture, avoid knee turning in/out or hip hike, can be done as strength training with one leg behind on a bench or as part of a medicine ball routine where one leg is up and partners are throwing chest passes in squat position.</td>
<td>Cannot reach parallel without back bending or knee going over toe.</td>
<td>Three sets of 10 each leg with no weight until have no movement error then slowly progress while holding dumbbells in each hand.</td>
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<tr>
<td>Deep squats</td>
<td>Lower body, low back, hip mobility</td>
<td>Maintain tall posture and lower as low as possible (no weight) into a squat position, keep back flat and heels on ground, if necessary use some form of heel lift to enable more depth with proper posture, as improve lower heel lift/remove entirely.</td>
<td>Lifting heels off the ground.</td>
<td>Three sets of 10. Do not use weight.</td>
</tr>
<tr>
<td>Kneeling medicine ball passes (1)*</td>
<td>Total body stability, mobility, and power</td>
<td>From a narrow kneeling position (legs about 6 inches apart) with front leg down perform a forceful bounce pass to a wall or your partner, maintain a tall posture.</td>
<td>Not maintaining an erect torso throughout movement.</td>
<td>Start at 3 sets of 5 each side and progress to sets of 10</td>
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<tr>
<td>Wood chops</td>
<td>Total body stability and mobility</td>
<td>Staggered lunge position, start with medicine ball over shoulder of back leg, rotate torso and bring elbow outside front knee, watch for bending in back instead of rotation and flexion at hips.</td>
<td>Not rotating at hips and bringing elbow outside knee.</td>
<td>Start at 3 sets of 10 and progress to no more than 20 Increase weight as needed.</td>
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</table>
Maintaining a tall posture throughout the movement, and flexibility.

**MOTIVATION AND EXERCISE VOLUME**

A valuable motivational tool that can be used is periodic assessment. The coach can create a series of tests to evaluate stability and mobility and assign scores to them with the highest score being flawless movement. One time-efficient method would be creating a score sheet with criteria for each of the primary exercises being used (Table 2). By using some of the patterns in the table provided as evaluation tools, the students are more likely to stay motivated as they see improvements and understand how the exercise can help them perform better.

The way sets and reps are structured can serve as another valuable form of motivation. If a coach establishes a goal of a certain number of repetitions with perfect technique or a certain amount of time to perform the exercise, the athlete can continually be challenged to improve. This method also enables the coach to vary the volume based on individual needs. As the coach...
observes the athlete performing the movements, he or she may determine that more quality repetitions need to be included on one side in order to create proper left to right side balance. For example, if the coach observes the hip raises sooner on the left leg than the right leg on a single leg RDL, then 2 extra sets of 10 repetitions can be performed on the left leg to correct imbalances. One can use Table 1 as a reference for the exercise volume for each movement. Volume only increases as the individual can perform the present volume with no errors. Volume is increased through longer duration, more repetitions, or adding weight in a progressive manner.

This column has provided a few suggestions on improving mobility and stability weaknesses in the high school athlete with the time, resources, and trained individuals that are available. The movements can be included as part of a warm up or within the exercises the students are expected to perform. Hopefully, these suggestions provide practical methods of addressing mobility and stability during a high school strength and conditioning program.

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REFERENCES