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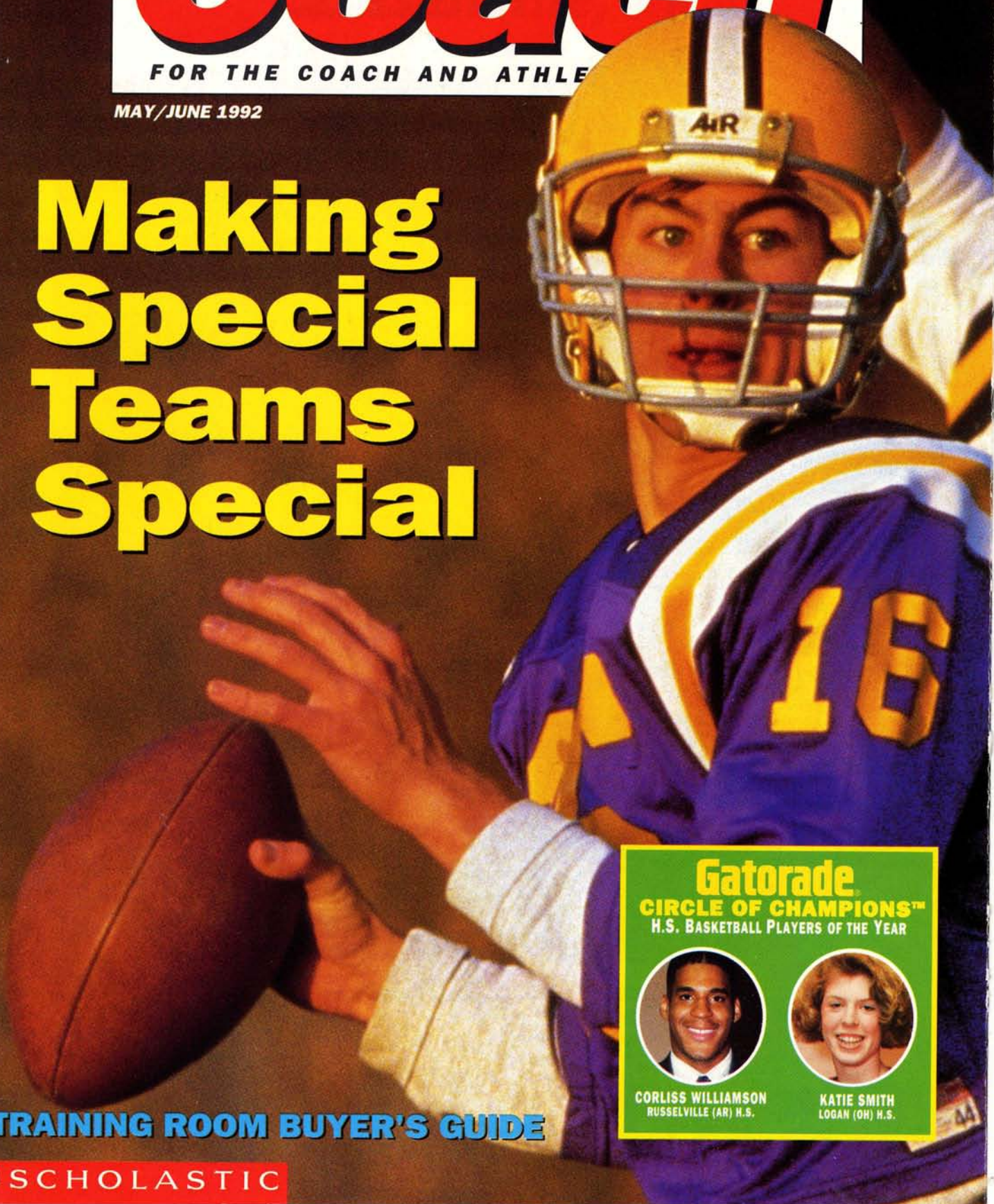
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Strength- Training an Injured Bodypart

Athletes who are injured or afflicted with such non-contact ailments as tendinitis and bursitis are usually treated by one or more qualified sportsmedicine personnel, athletic trainers, physical therapists, etc., who may advise the athlete to discontinue his strength-training program until he heals.



By Matt Brzycki, Strength Coach, Princeton University

The recommendation is seldom prudent. Research has shown that a muscle will begin to lose its size and strength whenever it isn't exercised within 48 to 96 hours of its previous workout. What's more, the most rapid rate of strength loss will occur in the first few weeks.

Several exercise options and program adjustments can be used to strength-train the injured bodypart, assuming the injury isn't deemed serious or extremely painful. The athlete should, however, seek the approval of a certified sportsmedicine authority before initiating any rehabilitative strength training.

1. Lighten the Resistance

This is the first step for anyone wanting to continue training an injured bodypart. It is usually the easiest and most straightforward recommendation.

Let's assume that an athlete's patellar tendon hurts when doing a leg extension with the normal training weight. A reduction in weight will put less stress on the tendon and perhaps allow the athlete to perform the exercise in a pain-free manner.

The amount of weight reduction will depend upon the extent and nature of the injury.

2. Reduce the Speed of Movement

If the pain persists after decreasing the weight load, the athlete's next move should be to decelerate the speed of movement. This may involve raising the weight in about 4 to 8 seconds instead of the traditional 1 to 2.

Reducing the speed of movement will decrease the amount of stress placed on a given joint. The deceleration will also necessitate a reduction of weight, further reducing the stress.

3. Change the Exercise Angle

If pain persists during certain exercises involving an injured bodypart, the athlete can try to change the angle at which the movement is performed. This option can be used with many upper body exercises, especially those involving the shoulder joint.

Let's say the athlete experiences slight shoulder pain during a regular supine bench press. By changing the angle of the bench to either an incline or a decline, the athlete may lighten the stress on the shoulder joint.

If the athlete experiences pain when performing a shoulder press with the bar positioned behind the head, he can usually alleviate the pain by performing the exercise with the bar in front of the head.

Another exercise that may exacerbate shoulder pain is the behind-the-neck lat pull-down with an overhand grip. The pain is often characterized as a tightness or a pinching in the shoulder joint.

The discomfort can generally be lessened by changing the angle of the pull. The athlete can be instructed to grasp the bar with the palms facing the torso and pulling the bar to the upper chest instead of behind the neck.

4. Use a Different Grip

A different grip can often alleviate stress in the shoulder joint.

Let's again assume that the athlete experiences slight pain while doing an exercise such as a bench press. By simply changing his barbell grip to the parallel grip used with dumbbells, the athlete can effect a significant reduction in pain.

It should be noted that any exercise that can be performed with a barbell can be performed with a dumbbell. These exercises include the bench press, incline press, decline press, shoulder press, upright row, shoulder shrug, bent-over row, bicep curl, and

tricep extension.

The athlete has the option of varying his grip used in the exercise for just about every major muscle group in the upper torso.

5. Perform Different Exercises

The athlete who is having a problem with an exercise may simply switch to an exercise that uses the same muscle groups. If, for instance, the athlete simply cannot perform a lat pull-down without experiencing discomfort, he can be advised to switch to an exercise that works the same muscles in a pain-free manner.

For example, a seated row or a bent-over row involves the same muscles

as a lat pull-down, namely the back ("lats"), biceps, and forearms.

6. Limit the Range of Motion

Anytime that pain occurs only at certain points in the range of motion, such as in the starting or the mid-range position of the movement, the athlete can be told to restrict the exercise's range of movement.

For example, an injury such as a hyperextended elbow or knee is especially painful at the beginning (or stretched position) of a movement. In this case, the athlete should be instructed not to lower the weight all the way down.

If the pain occurs at the mid-range position of the exercise, the athlete should stop short of full muscular contraction (e.g., flexion or extension).

As the injured area heals over a period of time, the athlete can gradu-

The amount of weight reduction will depend upon the extent and nature of the injury.

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ally increase the exercise's range of motion until a full, pain-free action is obtained.

7. Exercise the Good Limb

If all else fails, the athlete can still exercise the unaffected limb. Let's assume the athlete has had knee surgery and has had his left leg placed in a cast from mid-thigh to ankle. He obviously cannot perform any exercises below the left hip joint. However, he should still be able to strength-train the muscles on the right side of the lower body.

As a matter of fact, research has shown that training one side of the body will actually affect the muscles on the other side of the body!

Researchers aren't exactly sure why this occurs, but the point is that it does occur. The phenomenon has been dubbed as "indirect transfer" or "cross transfer."

8. Exercise Unaffected Bodyparts

This suggestion may seem rather obvious, but it still can confuse a lot of people. There's absolutely no reason why an athlete with a knee injury cannot exercise his entire upper torso, assuming, of course, that he does so from a sitting or lying position—not standing!

Similarly, there's no reason why an athlete with a shoulder injury cannot train the muscles of the lower body.

As coaches, we have a legal responsibility for the physical preparedness of our teams. We have to understand that an injured area or bodypart can often be exercised in a safe, prudent, and pain-free manner, and that such a procedure can prevent a significant loss of muscular size and strength.

Even though an athlete may not be able to exercise an injured area due to an unreasonable amount of pain or discomfort, the movements can still be performed for uninjured bodyparts.

Remember, it's essential to maintain the athlete's strength-training protocol whenever possible—even in the presence of an injury. ■