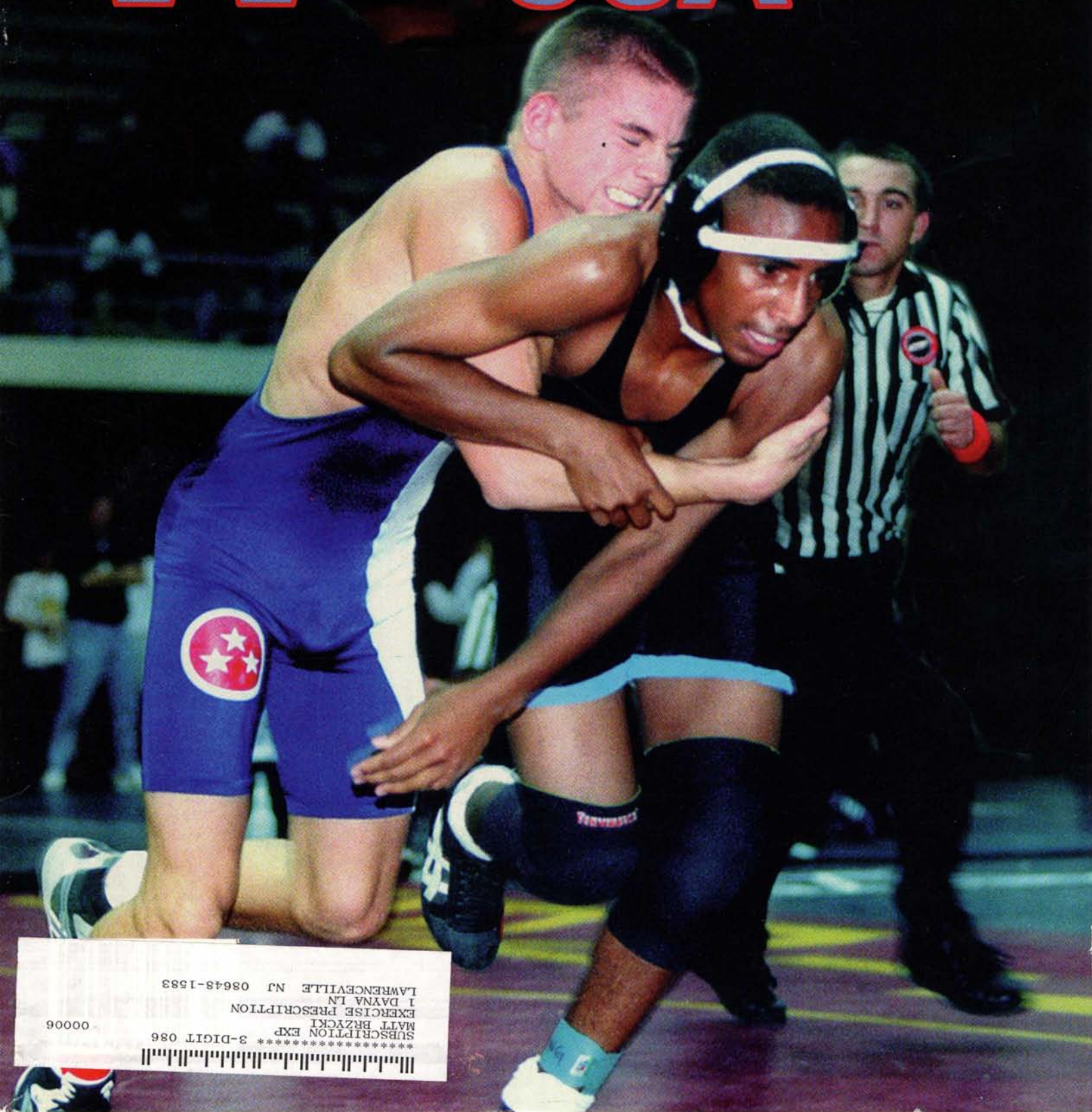


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EXERCISE PRESCRIPTION
MATT BRZYCKI
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By Matt Brzycki

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NECK TRAINING: *Make an* EFFORT!

Because the neck is not a "show" muscle — like the biceps and triceps — neck exercises are typically deemphasized or neglected altogether. Yet, a strong, thickly-muscled neck is extremely important in protecting the cervical area from traumatic injury in wrestling and judo.

Injuries primarily occur when an outside force acting upon a joint momentarily exceeds the structural integrity of that joint such that the muscle has been forcefully stretched or extended beyond its existing range of movement. Therefore, in order to reduce the poten-

tial for neck injury, it is critical that wrestlers strengthen their neck musculature.

BASIC ANATOMY AND MUSCULAR FUNCTION

Regardless of the length of the neck, all mammals — with the exception of several species of sloths — have exactly seven cervical vertebrae. Even a giraffe has seven cervical vertebrae — although each vertebrae of the giraffe is about as long as your leg bone! (In a bizarre twist of fate, a sparrow has more cervical vertebrae than a giraffe!) In humans, the primary muscles of the neck — namely the sternocleidomastoideus and

each side of your neck that start behind your ears and run down to your sternum (breastbone) and clavicles (collarbones). When both sides contract at the same time, the sternocleidomastoideus flexes your neck forward thereby bringing your head toward your chest; when one side acts singly, it flexes your neck laterally toward your shoulder or rotates your neck to the side.

Your trapezius is a kite-shaped muscle that covers the uppermost region of your back and the posterior section of your neck. The primary functions of your "traps" are to elevate your shoulders (as in shrugging), to adduct your scapulae (pinch your shoulder blades together) and to extend your neck backward.

So, these two muscles act upon your neck in eight different ways: (1) flexion of your neck forward; (2) extension of your neck backward; (3, 4) lateral flexion of your neck to the left and the right; (5, 6) rotation of your neck to the left and the right; (7) elevation of your shoulders; and (8) adduction of your shoulder blades. In order to develop

the trapezius — provide support and act to produce a variety of different movements.

Your sternocleidomastoideus has two parts or "heads" located on

your neck properly, exercises should be prescribed for as many of the various functions as possible.

THE EXERCISES

The following is a specific description of various exercises which can be performed to strengthen the muscles of your neck using conventional equipment. Unfortunately, it's rare to find a device nowadays to exercise the rotary movement of the neck. Therefore, neck rotation will not be described. However, the same muscle used during neck rotation is used when



1997 Keystone Women's Open - Tina George (red), Minnesota, defeats Jackie Berube, Michigan, 5-3, in the 123 lb. final. Photo by Sonja Stanbro.

performing neck lateral flexion.

1. Neck extension. This exercise works your sternocleidomastoideus (both sides acting together). It is most often performed using machines (selectorized and plate-loading) or manual resistance. If you're using a machine, adjust the seat so that your face is centered on the head pads when you are sitting upright. Place your feet flat on the floor, grasp the handles and extend your neck backward. If you're using manual resistance, lie supine on a bench, place your feet flat on the floor and position yourself so that your head hangs over the edge. Interlock your fingers and place them across your chest. To do the movement, bring your head as close to your chest as possible during the mid-range of each repetition. Pause briefly in this position and then return your head under control back to the starting position at the completion of each repetition to ensure a proper stretch.

2. Neck flexion. This movement targets your trapezius and neck extensors.

It's usually performed using machines (selectorized and plate-loading) or manual resistance. If you're using a machine, adjust the seat so that the back of your head is centered on the head pads when you are sitting upright. Place your feet flat on the floor, grasp the handles and flex your neck forward. If you're using manual resistance, lie prone on a bench and position yourself so that your head hangs over the edge. Place your hands and feet on the floor (or position your legs across the edge). To start the exercise, extend your neck backward as far as possible during the mid-range of each repetition. Pause briefly in this position and then return your head back to the starting position at the completion of each repetition to obtain a proper stretch.

3. Neck lateral flexion. Your sternocleidomastoideus (one side acting singly) is utilized during this movement. This exercise is most often done using machines (selectorized and plate-loading). Adjust the seat so that the right side of your face is centered on the head pads when you are sitting upright. Place your feet flat on

the floor, grasp the handles and flex your neck to your left shoulder. Without moving your upper torso, bring your head as close to your right shoulder as possible during the mid-range of each repetition. Pause briefly in this position and then return your head back to the starting position at the completion of each repetition to provide a proper stretch. After performing a set for the right side of your neck, repeat the exercise for the left side of your neck.

4. Shoulder shrug. This is the best exercise for isolating your trapezius muscle. It can be performed with a barbell, dumbbells, trap bar or machines (selectorized and plate-loading). Use an alternating grip or a grip with both palms facing toward you when using a barbell; use a parallel grip with both palms facing each other when using other equipment. To begin the movement, keep your arms and legs straight and pull the resistance up as high as possible trying to touch your shoulders to your ears (as if to say, "I don't know") during the mid-range of each repetition. Pause briefly in this position and

GENERAL GUIDELINES Training your neck requires appropriate EFFORT:

E - EXERCISE your neck at the beginning of your workout. It's important to devote your full attention to exercises for your cervical area. Far too often, the neck is exercised at the end of a workout almost as an afterthought. Instead, you should exercise your neck at the beginning of your workout while you're fresh — both physically as well as psychologically.

F - FOCUS on doing your repetitions with proper technique. Proper technique is raising the resistance without the use of momentum in about 1 - 2 seconds, pausing distinctly in the contracted (or mid-range) position and lowering the resistance under control in about 3 - 4 seconds. This will ensure that the targeted muscles are raising the resistance (rather than momentum) and that your chances of incurring an injury while strength training are minimized. In addition, each repetition should be performed throughout a full range of motion. This will allow you to maintain (or perhaps improve) your flexibility and ensure that you're exercising your entire muscle — not just a portion of it.

F - FATIGUE your neck muscles within 8 - 12 repetitions (or 40 - 70 seconds). A desirable level of fatigue is when you've exhausted your muscles to the point where you literally cannot perform another repetition. Performing sets of less than 8 repetitions significantly increases your risk of injury. Likewise, if you exceed 12 repetitions, the set becomes a test of endurance rather than strength.

Q - OVERLOAD your neck muscles with a workload that is increased steadily and systematically throughout the course of your strength-training program. In order to overload your muscles, you must attempt to increase either the resistance used or the repetitions performed in relation to your previous workout. Each time you attain the maximum number of repetitions, you should increase the resistance during your next workout; if you don't perform the maximum number of repetitions, you should use the same resistance during your next workout but try to increase the number of repetitions.

R - RECORD the amount of resistance and the number of repetitions you do in your workouts. This is a history of what you accomplished during each and every exercise of each and every strength session. Recording your data can be an extremely valuable tool to monitor your progress and make your workouts more meaningful. This can also be used to identify exercises in which you've reached a plateau. In the unfortunate event of an injury, the effectiveness of your rehabilitative process can be gauged if you have a record of your pre-injury strength levels.

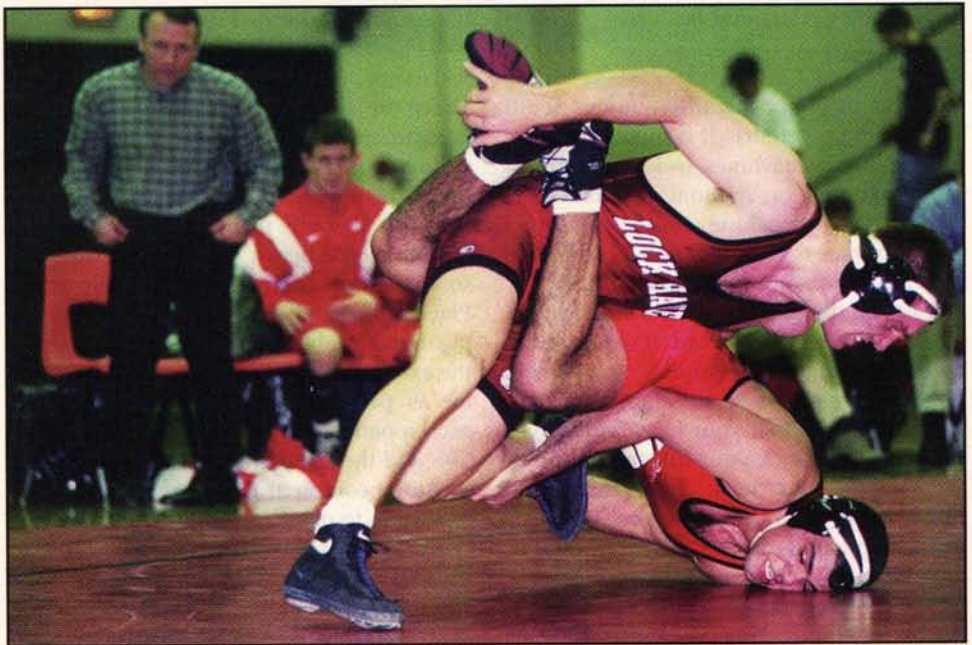
T - TRAIN your neck 2 - 3 times per week on nonconsecutive days. You should train your neck muscles three times per week when not in season and twice per week when in season (but not within 48 hours of a match). Neck exercises should never be done immediately before a practice session or a match.

PROTECT THE NECK

Wrestlers who don't perform neck exercises are placing themselves at risk for traumatic injury. Your potential for injury can be greatly reduced with a little EFFORT!

then lower the weight back to the starting position at the completion of each repetition to ensure a proper stretch. Avoid throwing the resistance by using your legs or by swinging your upper torso back and forth — movement should only occur around your shoulders. Finally, don't roll your shoulders forward or backward as you perform this exercise.

5. Scapulae adduction. This exercise for the trapezius is rarely done, yet it is the only one in which adduction of your scapulae is the lone movement. It can be performed with a dumbbell or a seated row machine (selectorized and plate-loading). Your palm should be facing the bench when using a dumbbell; use a parallel grip with both palms facing each other when using a machine. If you're using a dumbbell, place your left hand and your left knee on a bench, position your right foot on the floor at a comfortable distance from the bench and grasp a dumbbell with your right hand. To start the exercise, keep your arm(s) straight and pull the resistance backward as far as possible trying to touch your shoulder blades together during the mid-range of each repetition. Pause briefly in this position and then lower the weight back to the starting position at the completion of each repetition to provide a proper



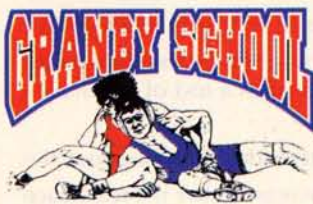
Lock Haven vs University of Wisconsin - 190 lb. Lock Haven's Kenny Haines controls Joe Terrill of Wisconsin during Haines' 7-2 win.

stretch. Avoid throwing the resistance by swinging your upper torso back and forth — movement should only occur around your shoulders. After performing a set for the right side of your body with a dumbbell, repeat the exercise for the left side of your body.

Matt Brzycki is the Coordinator of Health Fitness, Strength and Conditioning at Princeton University. He has authored three books, coauthored another and written nearly 150 articles on strength and fitness that have appeared in 30 different publications.

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