

Resource Section

Strength Training (part 2) - Weight Training

The following pictures are to supplement the suggested Dryland Training Plan. There are general strength building exercises provided, along with some sport specific strength training exercises. All of these exercises will help you develop strength in each of the three disciplines (swim, bike, run). Just like in the core strength section, you do not need to do each exercise. It is a frame of reference to help you put together the type of weight training plan that would best suit your needs. As in the core strength, it is also important to switch some of the exercises every 6 - 12 weeks. Keep in mind that although it is important to switch some exercises, it is also important to perform certain fundamental strength exercises through-out the training season (ie chest, back, biceps, triceps, quads, hams and calves). Look at the following pictures and develop your strength training routine. According to scientific research, a full body strength training routine (ie chest, back, biceps, triceps, quads, hams and calves) done two to three times a week is sufficient to produce a significant increase in strength. It is suggested to work larger muscle groups (ie chest, glutes) first, then progress to working smaller muscle groups (biceps, calves) later in the workout.

General Weight Lifting Exercises

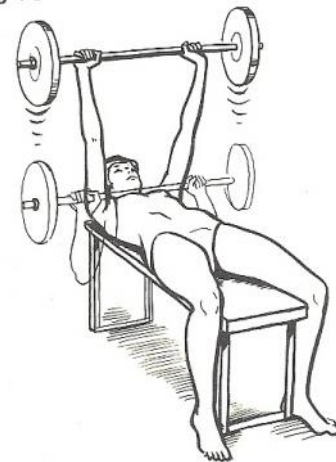
Half Squats—with bar-bell.

Fig 66



Bench Press

Fig 79



Dead Lift



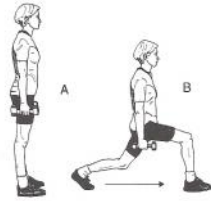
Table 6.4 (continued)

Leg press



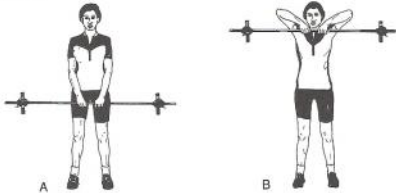
Various leg-press machines are available (slanted—as shown here—horizontal, or vertical). Regardless of the machine, bend your knees to the desired level and return them to a locked position.

Lunge



Stand with your feet shoulder-width apart, torso erect, arms straight down, head up, and eyes straight forward, as shown in Position A. With a firm grip on the dumbbells, step forward and sink down to Position B. Return to the original position, then repeat with the other leg. Very little weight is needed for this exercise to be effective. You can adjust the depth of your movement to mirror the knee flexion that matches pedaling.

Upright row



Assume Position A by gripping the bar with your hands shoulder-width (or slightly less than shoulder-width) apart. Using your trapezius, biceps, and middle deltoid muscles, raise the weight to the level of your sternum (Position B). Your elbows should rise to a point beside the top of your head.

Table 6.4

Calf raise



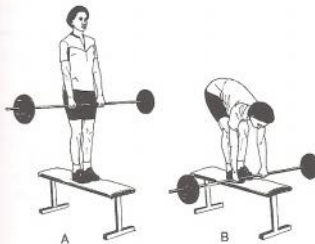
For this exercise you may use a barbell across your shoulders, hold a dumbbell in one hand (for exercising one calf at a time), or have a partner help you with the "donkey raise" shown here. Put a board under your toes and stretch your calf muscles to the position shown and then raise your heels. Keep your knees straight. Do 15 to 30 repetitions.

Bent-arm pullover



Place a weight on your chest (Position A), and inhale as you pass it over your face until it rests near the ground (Position B). Exhale as you return the weight to your chest. Use much less weight than in the straight-arm pullover.

Stiff-legged deadlift

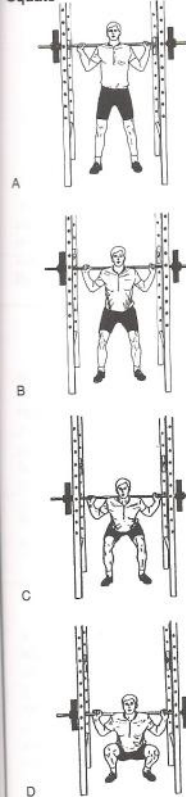


Even though this is called a stiff-legged deadlift, keep your knees slightly bent. From Position A, round your back and lower the weight to Position B. Performing this exercise on the floor limits your range of motion. Using a bench will allow a maximum stretch of your back and hamstring muscles.

(continued)

Table 6.4

Squats



Squats are the base for any resistance-training program. They may be done throughout the training cycle; simply adjust the depth, intensity, and speed to match the phase of your program. Position A is the normal starting position. The bar is on the trapezius and shoulders. (Use a towel or pad as a cushion if you need to.) Keep your feet hip-width apart and your toes pointed slightly out or straight ahead. Throughout the movement, keep your back flat and make sure the bar remains over your feet. Control your descent, taking 1 to 3 seconds. Be sure not to bounce on recovery.

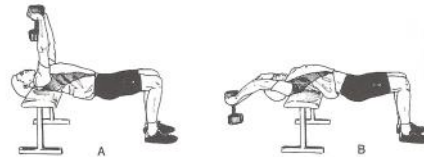
You can use full squats (Position D) during the foundation phase of your resistance-training program. As you increase the weight, you can adjust the level of your squat so that at your lowest point the tops of your thighs are parallel to the floor (Position C). The partial squat (descending only to Position B) can be used during any phase of your program, but it works best in the basic-strength phase. You may use a lot of weight as long as your trunk—your abdominal and lower back muscles—is strong enough to allow you to maintain a proper position.

During the power phase of your program, you may try speed squats, in which you descend normally but rise up as quickly as possible. Have someone time your ascent, starting a stopwatch as soon as he or she detects your upward movement and stopping it when your knees straighten out. Strive to improve your ascent times for given weights. Keeping each squat under 1 second at a weight that is 80% to 85% of the total weight you can squat will help recruit fast-twitch muscle fibers. For lighter weights, set faster goals. Keep a record of your repetitions, times, and weights.

(continued)

Table 6.4 (continued)

Straight-arm pullover



Use a light weight (15- to 20-pound barbell or dumbbell). Start in Position A, and inhale deeply while you lower the weight to Position B. Exhale as you return the weight to the original position. You can use this exercise to help you regain your breath after a round of squats. The amount of weight is not important. This is a breathing exercise.

Good morning



The motion of this exercise resembles the old-fashioned custom of gentlemen bowing to wish people good morning. Start with the bar on your shoulders (Position A), then flex your knees slightly while bending forward. Your lower back may be rounded (Position B) or flat. Return to your original position to complete one repetition. Use light to moderate weights only. This exercise can be stressful if too much weight is used.

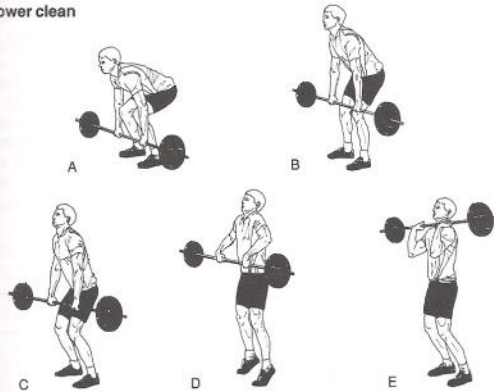
Bent-over rowing



Keep your knees fully flexed and your back mostly flat. Draw the weight up to your chest or abdominal area using your arms, shoulders, and the latissimus muscles of your back. Do not allow the weight to drop as you return to the starting position. A variation of this exercise would be to lean your chest against an incline and use two dumbbells.

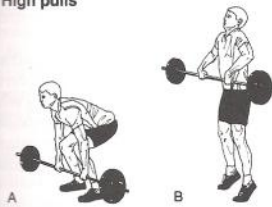
Table 6.4

Power clean



This is an excellent exercise for the basic-strength and power phases of your program. Start with your feet flat, about hip-width apart, and your knees over your toes (Position A). Use your legs and hips to raise the bar to Position B. Keep your arms straight and back flat at this point. After the bar passes your knees, bend your ankles and knees and place the bar on your thighs above your knees (Position C). Jump up forcefully as you move the bar quickly up to Position D. Slightly dip your knees and affix the bar on your shoulders (Position E). This exercise uses the bigger muscles of your body and helps you develop a quick, explosive movement. It should take you 1 second to pull and place the bar on your shoulders.

High pulls

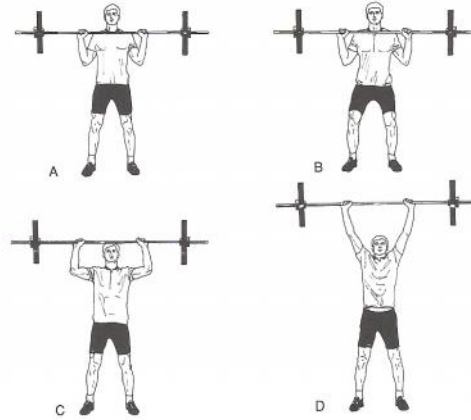


Be sure that your back is flat and your hips do not lift too quickly when you do this exercise. Use the same positions you did in the power clean; however, you can use heavier weights because the bar is only being pulled up to Position B, not being "cleaned" to the shoulders.

(continued)

Table 6.4 (continued)

Push press



This can also be called a "cheat press." Use your legs to start the bar's movement, but recruit your triceps and deltoids to finish the lockout phase. Hold the bar as shown in Position A, letting it rest on your frontal deltoids. Bend your knees a few inches (Position B). Then combine leg and arm thrust to get the bar over your head (Position C), rising up on your toes. Complete the lockout (Position D) with your feet flat on the floor. Do not allow yourself to bend backward. Return to the original position for the next repetition.

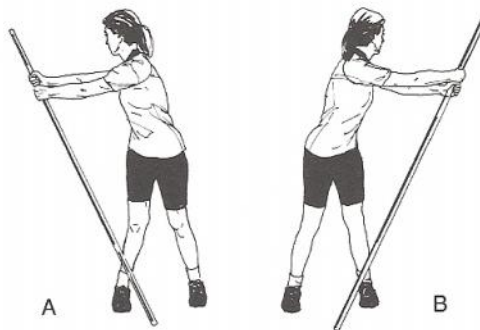
Heavy partial squats



Begin from the position shown, with the bar resting on pins in a power rack. Keep your back flat, and rise as quickly as possible. All cyclists should be able to work up to the 300- to 800-pound range.

Table 6.4 (continued)

Barbell twist



This exercise uses a rotational movement to work your muscles. Use your oblique muscles and the muscles of the abdominal wall to help rotate your body weight from Position A to Position B and back. Do not use your arm muscles. Be sure to keep your hips stable.

Note. From "Strength Training for Cycling" by H. Newton. In *Science of Cycling* (pp. 28-45) by E.R. Burke (Ed.), 1986, Champaign, IL: Human Kinetics. Copyright 1986 by Edmund Burke. Adapted by permission.

More Sport Specific Weight Training Exercises

Specific training to develop sport specific strength in all three disciplines (swim, bike and run)

Astride Jumps—on and off the bench, holding dumb-bells in the hands.

Fig 69

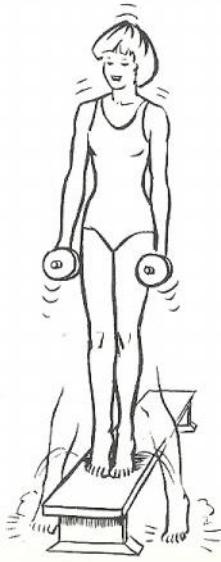


Fig 67

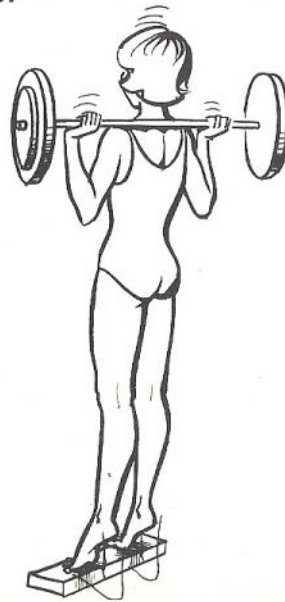
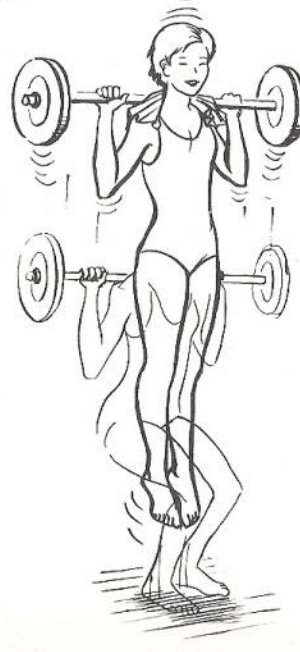
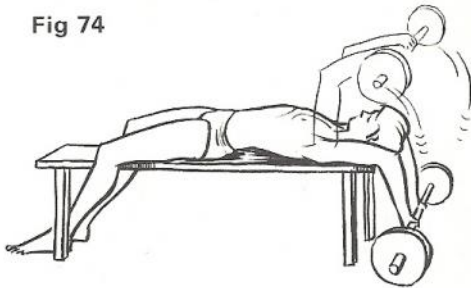


Fig 68



Bent Arm Pullover Movement

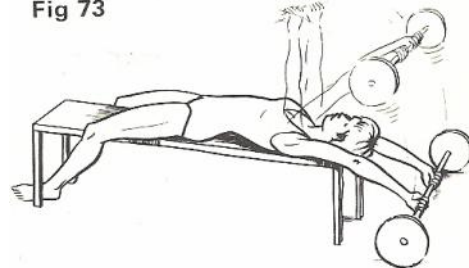
Fig 74



Arms and Shoulders—Pull-overs

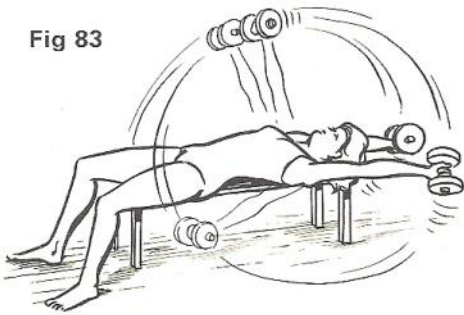
Straight Arm Pullover

Fig 73



Pull Round Sideways and Over
—with dumb-bells.

Fig 83



Straight Arm Lateral Raise—
with dumb-bells, standing.

Fig 87



Variation: Bent Forward Late
Raise.

Fig 88

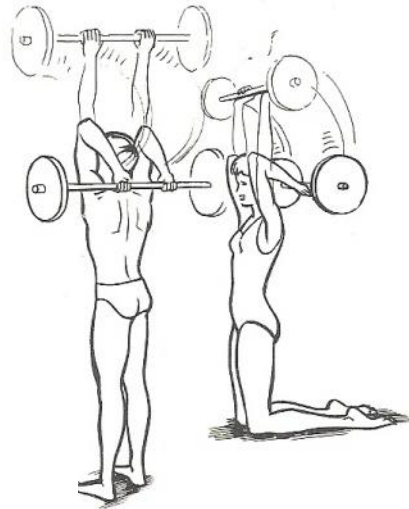


Clean and Press

Fig 95

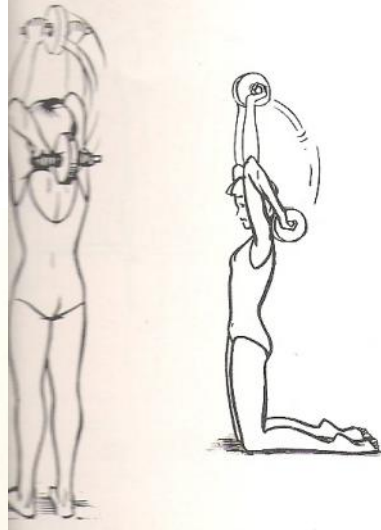


Fig 78



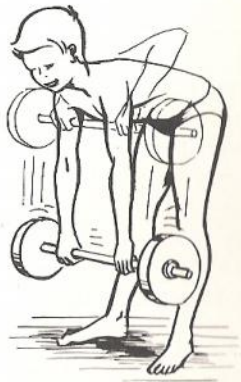
Cepts Press (Curl)

77



Bent Forward Rowing

Fig 81



Clean and Press

Fig 95

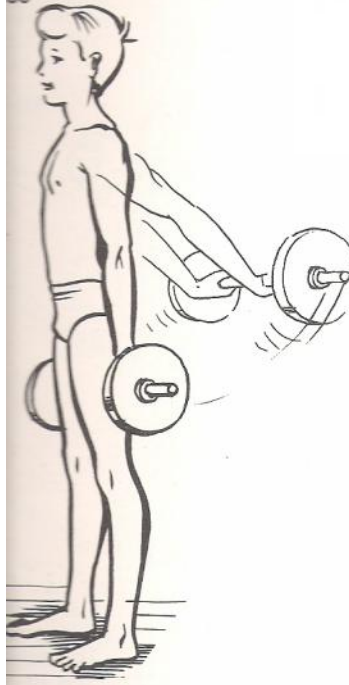


Fig 80



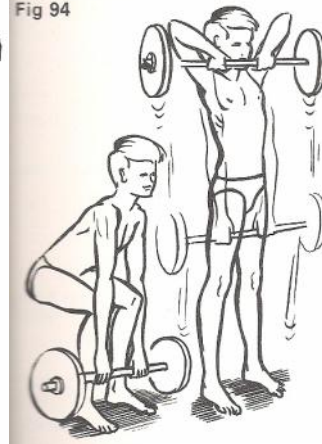
Back—standing.

85



General High Pull Up

Fig 94



Back Lift lying on the Floor

Fig 92



Variation lying on a Bench

Fig 93

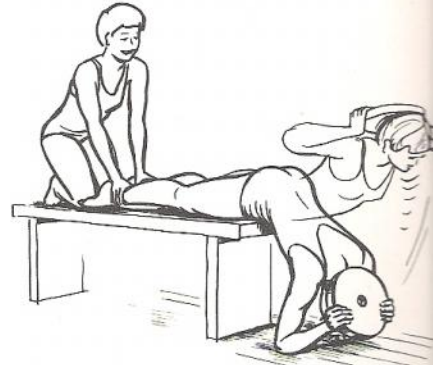
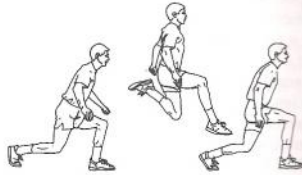


Table 6.5 Plyometric Drills for Cyclists

Split squat with cycle

Equipment: None.

Start: Standing upright, spread the feet far apart, front to back, and bend the front leg 90 degrees at the hip and 90 degrees at the knee.

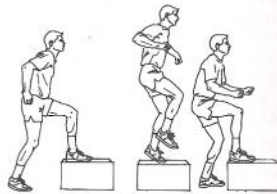


Action: Jumping up, switch leg positions—the front leg kicks to the back position and the back leg bends back and comes through to the front. While bringing the back leg through, try to flex the knee so that it comes close to the buttock. Land in the split-squat position and jump again immediately.

Alternating push-off

Equipment: A box 6 to 12 inches high.

Start: Stand on the ground and place one foot on the box, heel close to the closest edge.

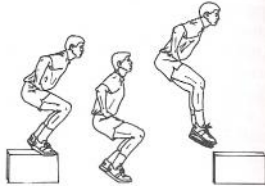


Action: Push off of the foot on the box to gain as much height as possible by extending through the entire leg and foot; land with feet reversed (the box foot lands a split second before the ground foot). Use a double-arm swing for height and balance.

Squat-depth jump

Equipment: A box 12 to 42 inches high.

Start: Stand on a box in a quarter- to half-squat, toes close to the edge.



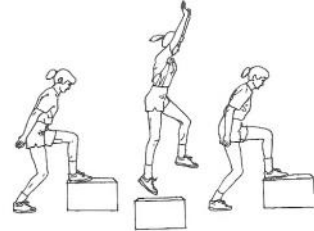
Action: Step off the box and land in a 90-degree squat position; explode up out of the squat and land solidly in a squat. For added difficulty, land on a second box of equal height after doing the jump.

Table 6.5

Single-leg push-off

Equipment: A box 6 to 12 inches high.

Start: Stand on the ground and place one foot on the box, heel close to the closest edge.



Action: Push off of the foot on top of the box to gain as much height as possible by extending through the entire leg and foot. Land with the same foot on top of the box and push off again. Use a double-arm swing for height and balance.

Stadium hops

Equipment: Bleachers or stadium steps.

Start: Stand in a quarter-squat at the bottom of the stairs, with hands on hips or back of neck and feet shoulder-width apart.



Action: Jump to the first step and continue up for 10 or more jumps. Make landings light and quick; movements should be continuous up the stairs without pauses. Generally, the athlete should be able to take two steps at a time.

Note. From *Jumping Into Plyometrics* (pp. 29, 40, 43, and 50) by D.A. Chu, 1992, Champaign, IL: Human Kinetics. Copyright 1992 by Donald A. Chu. Adapted by permission.

Leg Raises—back lying

Fig 71



Leg Raises—front lying

Fig 70



This resource section was developed to help you find ways to improve your triathlon training and racing. A great deal of information has been presented here for your reading enjoyment, and to help you develop a training schedule that will suit your own particular needs. Every athlete is very different in their individual training needs, which make it very difficult to make a general training plan for everybody as a whole. This training plan was developed to give you the resources to create a plan according to your individual training needs.

If there are any questions that I can answer, or tips that I can provide, feel free to contact me, Jon Tracy, MSc (Exercise Physiologist). My email is jono3of6@hotmail.com. Enjoy the program, and have fun training in the winter, and racing in the summer.

“Tri a Tri, Attempt an Olympic, Submit to Ironman” – Jon Tracy