

Serious injury can occur if you are struck by falling weights or moving parts. The risk that you assume by using this type of equipment can be reduced by obeying a few simple rules:

- IMPORTANT:** Cables are a wear item. It is your responsibility to prevent unexpected breakage. To do this, inspect every cable daily. Pay particular attention to areas near fittings at each end of each cable. Access panels are provided, where necessary, for this purpose. Replace worn, frayed, or damaged cables immediately. The actual wire strands, the fittings, and the nylon jacket itself must all be scrutinized. Using or allowing a machine to be used with a suspect cable can result in serious injury.
- Inspect the nylon jacket of each cable carefully, again paying particular attention to the cable ends. This nylon jacket is essential for cable life and safety. Any cable should be replaced if the nylon jacket is pulled, is damaged in any way, has missing or shrunk away from the fittings at the end of the cable, or is discolored. **DISCOLORATION, DARKENING OR BULGING OF THE JACKET IS AN EARLY INDICATION OF INTERNAL PROBLEMS SUCH AS WEAR OR FRAVING.**
- Read and follow all instructions in your owner's manual, on your exercise chart, and on product warning label. Additional copies are available from Vectra Fitness, Inc. or your dealer. Do not use this machine until you have taken the time to become completely familiar with its safe operation.
- Consult your physician before beginning your exercise program.
- Do not allow young children to use or play with or around this machine. Allow older children to use the machine only with adult supervision.
- Keep body, hair, and clothing clear of weights and moving parts at all times. Keep fingers clear of moving parts while making adjustments.
- Inspect the gym for loose or worn parts, damaged, frayed, or worn cables, broken weight plates, etc. Do not use or allow the machine to be used until any defective parts are repaired or replaced. Refer to the "Routine Inspection and Maintenance" section of your manual for specific inspection rules. Use only Vectra authorized replacement parts.
- Ensure that the weight selector pin is in good working condition and fully engaged in the selector shaft prior to lifting. Use only the Vectra supplied pin or a Vectra authorized replacement.
- Ensure that all locking mechanisms are properly engaged prior to lifting. Locking mechanisms secure the following in position during use: seat pads, accessory items such as squat attachments and lat hold downs, cable attachments, press arms, leg developers, etc. An improperly engaged locking mechanism could result in an injury.
- Obtain assistance to free jammed weight plates, pulleys, etc. Do not attempt to free jammed weight plates by yourself. Falling weight plates can cause serious injury. Do not pin the weight stack or top plate in an elevated position and do not use machine if found in this condition.
- Do not drop the weight plates. Lift only as much as you can control safely. Never use dumbbells or other means to incrementally increase the weight resistance. Use only those means provided by Vectra. Don't be careless, stay alert.
- Serious injury could result if equipment moves while in use. To prevent this, ensure that the floor is even, strong, and not too slippery. If equipment slides too easily on floor, place equipment on rubber matting. Errors in lifting form could also result in bench moving in use. To prevent this, lift weight vertically only and do not push horizontally with your feet while lifting. Replace any warning or caution labels on product if damaged, illegible, or removed.

Welcome to the world of the finest multi-station gyms ever built — the world of Vectra Fitness.

Before embarking on an exercise program, it is recommended that you undergo a complete physical. Discuss with your physician a personalized exercise program taking into account your age, weight and physical condition. For safety, perform exercises exactly as shown and described here and with attachments as shown. A qualified trainer can suggest other exercises and programs to help you accomplish your fitness goals. However, only depart from the exercises shown here under the guidance of a qualified individual. To enhance the benefits and enjoyment you receive from using Vectra equipment, please consider the following suggestions:

- While exercising, never hold your breath. Exhale upon exertion.
- Always use proper form. Do not sacrifice good form in an attempt to lift more weight.
- Use controlled speed of movement when performing exercises. Avoid jerky movements.
- Always use a full range of motion. Never lock out elbows or knees.
- Train at least 3 days a week.
- Do not train the same body part two days consecutively.
- Choose a weight you can handle for ten or more repetitions. As you become stronger, adjust the weight so that you cannot complete more than the prescribed number of repetitions.

For additional or specific information on workout programs, we suggest you consider the following options:

- 1) consult a certified fitness instructor or certified personal trainer (A.C.E., N.S.C.A. and the A.C.S.M., are all reputable certification programs);
- 2) consult your specialty fitness retailer;
- 3) consult a physical therapist;
- 4) read reference materials suggested by any of the previously mentioned sources.

## Core Training & Functional Training

The main concepts of core strengthening programs involve using many muscles in dynamic and coordinated movements. Rather than isolating specific joints as in conventional weight lifting exercises, stability exercises focus on working the body's "core" muscles. These core muscles are the foundation for all other movement. The biggest benefit of core training is to develop functional fitness — that is, fitness essential to both daily living and regular activities (including sports specific activities).



The body's core muscles lie deep within the torso and generally attach to the spine, pelvis, and to muscles that support the scapula. When these muscles contract, they stabilize the spine, pelvis, and shoulders and create a solid base of support allowing us to generate powerful movement of the extremities. Training these muscles can correct postural imbalances and is essential to injury prevention and sports performance.

The best method of improving core stability is to train in an unstable environment. You can do this by using an exercise ball in conjunction with your weight training. At the heart of the concept, is the ball's instability and mobility. The ball, being round, wants to roll away, requiring the postural muscle to engage in order to maintain balance. The ball is also unstable beneath the user, adding to the challenge for postural muscles.

While exercise programs incorporating exercise balls may be modified for a wide range of people, the unstable environment coupled with weights can result in serious injury. If you are not familiar with using an exercise ball, you should consult with a certified personal trainer or read one of a number of publications devoted to the proper use of such balls. No ball is provided with machine. We recommend you use a high quality, burst resistant ball and that you start with very light loads (under 20 lbs.). Increase the training load in small increments only as your ability to maintain balance progresses. The accompanying illustrations are merely suggestive of training routines that will increase the utility of your Vectra VFT-100. You should not rely solely on this exercise chart for instruction on the use of exercise balls in connection with your weight training.

**IMPORTANT:** The exercises shown here include exercises using an exercise ball. See above text for suggestions on incorporating such a ball safely into your routine.

**1. Seated Trunk Rotation, "Chop"**

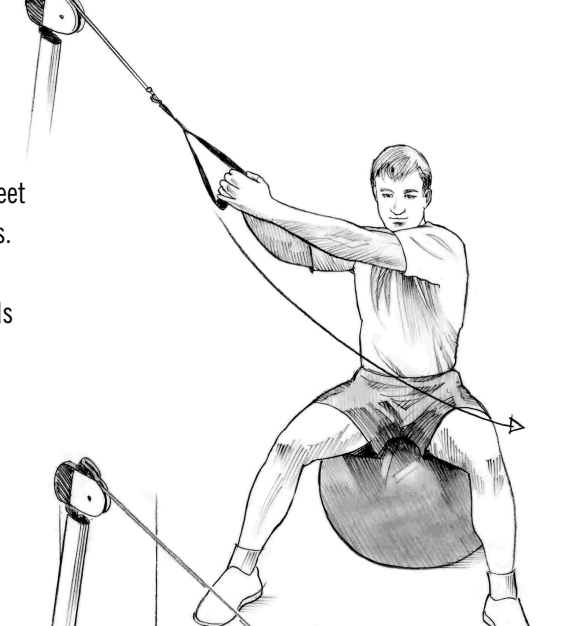
**Benefits:** Obliques, abdominal and spine stabilization and rotation muscles involved in various sports requiring a spinal rotation motion (golf swing and various racquet sports).

**Position:** Adjust pulley arm to the highest position. Sitting with feet at least hip width apart, grasp the single handle with both hands.

**Action:** While keeping your back upright and arms stiff, begin to swing the arms out in a diagonal motion across your body towards the floor. Hold momentarily and return to the starting position. Perform repetitions, repeat on other side.

**Tips:** Use caution as you swing your arms towards the floor since you will be shifting your weight while balancing yourself on the ball. Narrowing the distance between your feet will increase the level of difficulty.

**Variation:** Exercise may also be performed sitting on the bench.



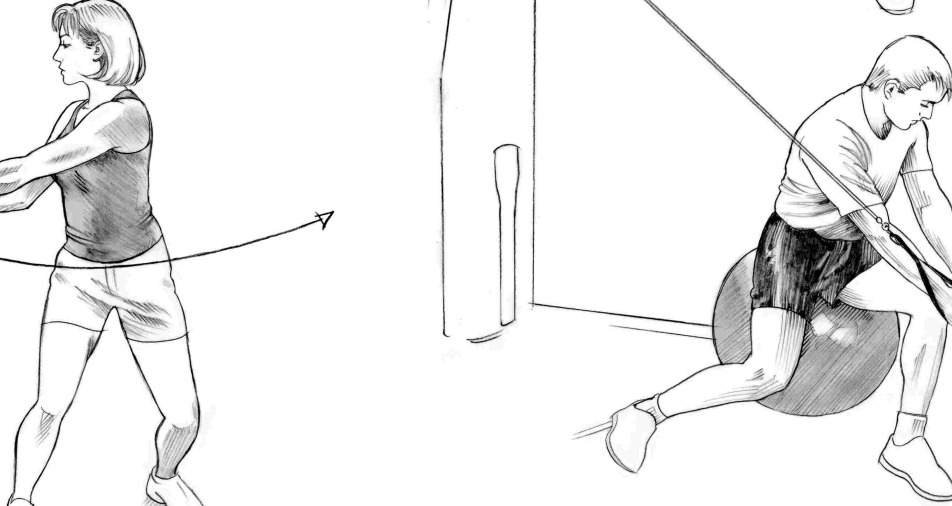
**2. Standing Trunk Rotation**

**Benefits:** Obliques, abdominal wall and spine stabilization muscles. Simulates functional rotation for various sports requiring such motion (batting, various racquet sports, golf, basketball, etc.)

**Position:** Position the pulley arm at hip level. Stand with your feet slightly wider than hip width apart while turned toward the right. Grasp the handle with both hands about one foot away from pulley, waist twisted towards pulley. Keep your knees and elbows slightly bent.

**Action:** Rotate to the left as far as you can, hold momentarily and return to the starting position. Perform repetitions, repeat on other side.

**Tips:** Allow the rotation to occur in the waist and upper body. Keep hips and knees stationary and avoid making quick rotations.



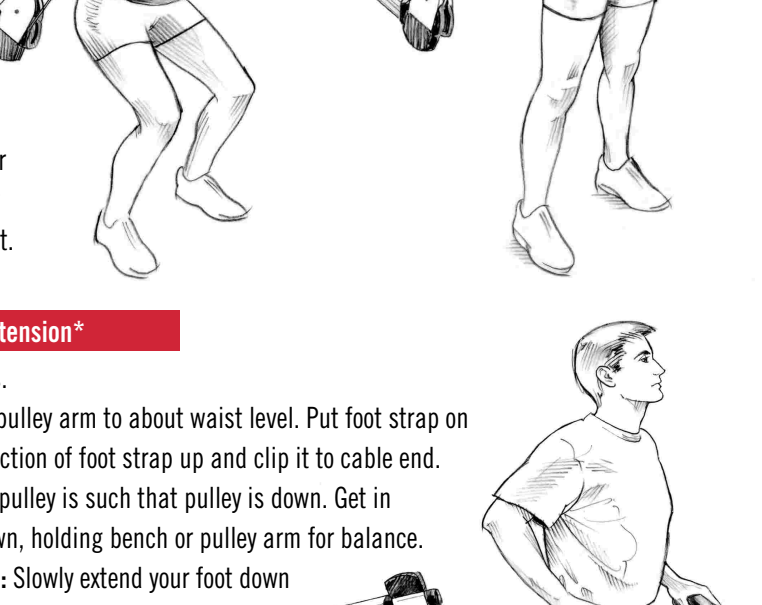
**3. Ball Squat**

**Benefits:** Quadriceps, buttocks, hamstrings.

**Position:** Position pulley arm to lowest level. Facing forward place exercise ball behind you, waist high. Bend at the knees, grasp each handle and return to a standing position. Keep feet slightly wider than hip width apart, lean back into the ball to keep it in position.

**Action:** While looking forward, bend at the knees as you squat down until thighs are parallel to the floor. Hold momentarily and return to a standing position. Avoid locking your knees. The ball will roll up and down your back as you perform the movement.

**Tips:** Avoid looking down, as this will tend to cause your upper back to curve forward. Maintain the curvature in your lower back and limit range of motion if you feel discomfort in your knees.



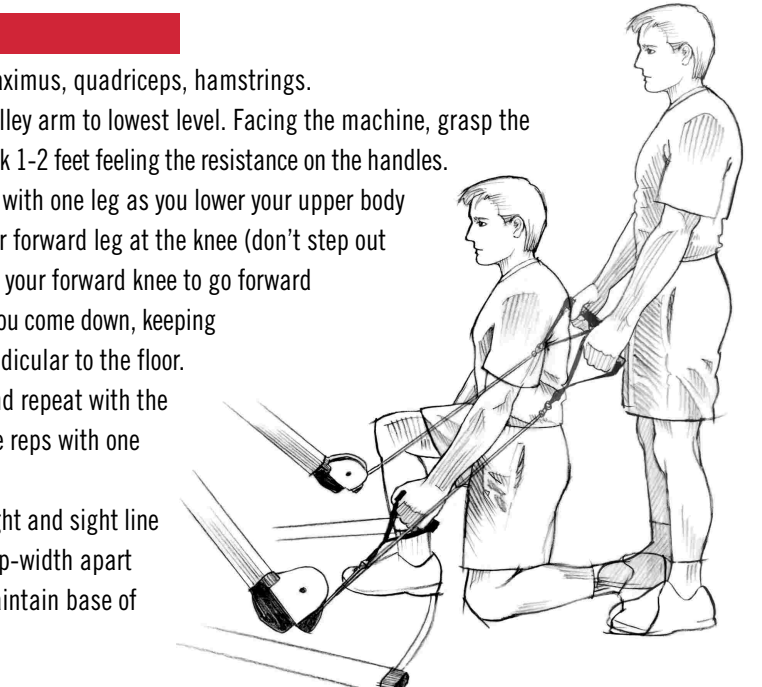
**4. Lunge**

**Benefits:** Gluteus maximus, quadriceps, hamstrings.

**Position:** Position pulley arm to lowest level. Facing the machine, grasp the handles and step back 1-2 feet feeling the resistance on the handles.

**Action:** Step forward with one leg as you lower your upper body down by bending your forward leg at the knee (don't step out too far). Do not allow your forward knee to go forward beyond your toes as you come down, keeping the front shin perpendicular to the floor. Push up and back and repeat with the other leg or do all the reps with one leg then switch.

**Tips:** Keep head upright and sight line forward. Keep feet hip-width apart while standing to maintain base of support.



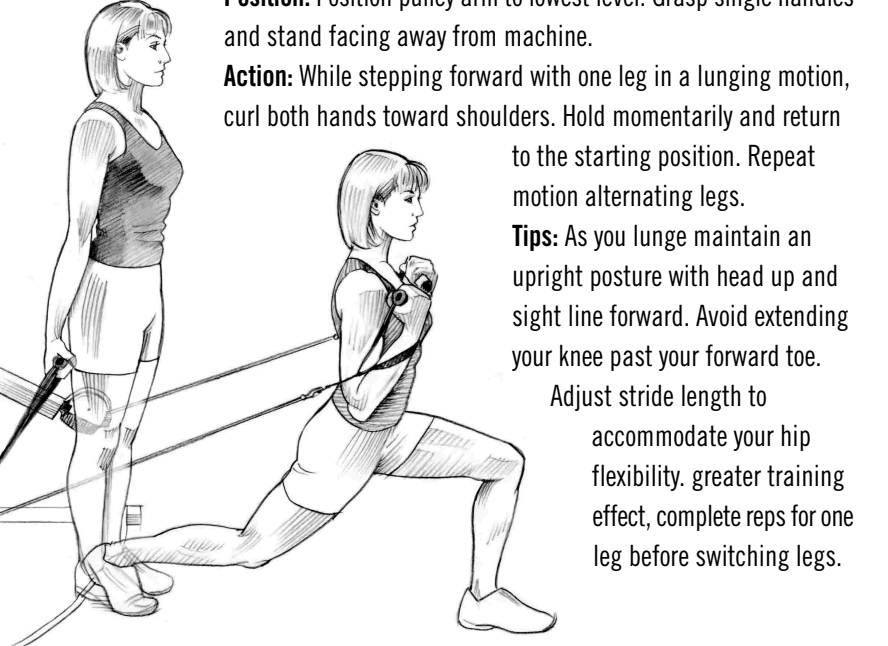
**5. Lunge With Biceps Curl**

**Benefits:** Quadriceps, buttocks, hamstrings and biceps.

**Position:** Position pulley arm to lowest level. Grasp single handles and stand facing away from machine.

**Action:** While stepping forward with one leg in a lunging motion, curl both hands toward shoulders. Hold momentarily and return to the starting position. Repeat motion alternating legs.

**Tips:** As you lunge maintain an upright posture with head up and sight line forward. Avoid extending your knee past your forward toe. Adjust stride length to accommodate your hip flexibility, greater training effect, complete reps for one leg before switching legs.



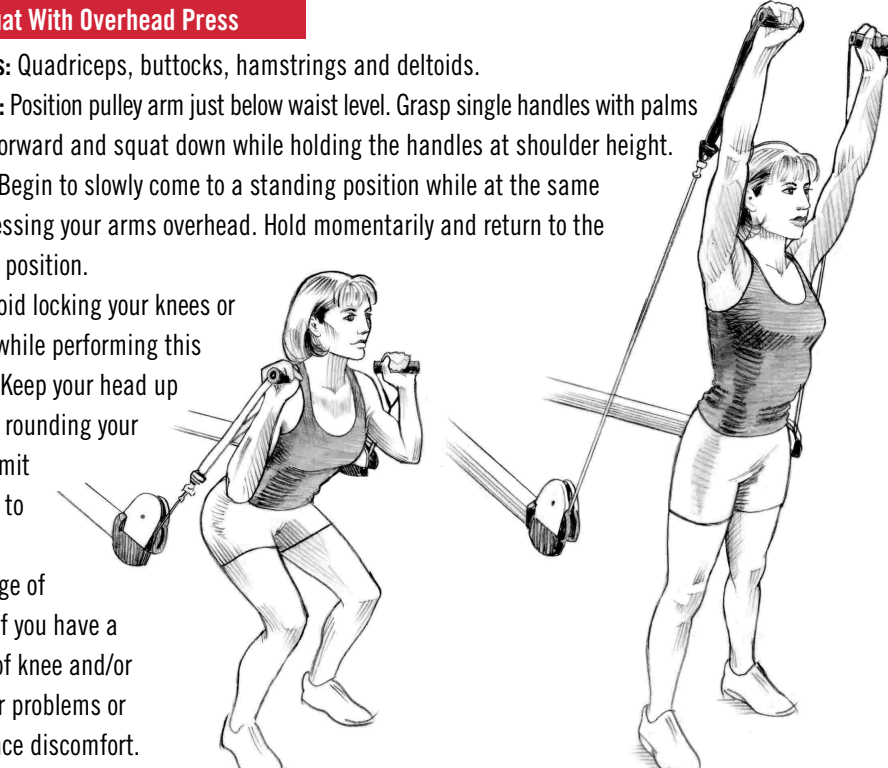
**6. Squat With Overhead Press**

**Benefits:** Quadriceps, buttocks, hamstrings and deltoids.

**Position:** Position pulley arm just below waist level. Grasp single handles with palms facing forward and squat down while holding the handles at shoulder height.

**Action:** Begin to slowly come to a standing position while at the same time pressing your arms overhead. Hold momentarily and return to the starting position.

**Tips:** Avoid locking your knees or elbows while performing this motion. Keep your head up to avoid rounding your back. Limit exercise to pain free range of motion if you have a history of knee and/or shoulder problems or experience discomfort.



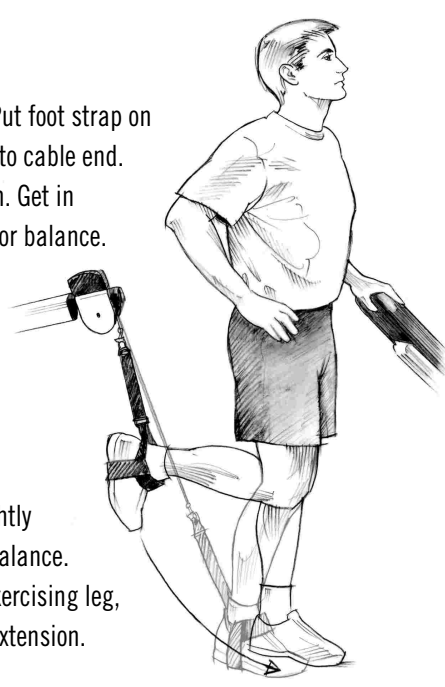
**7. Standing Leg Extension\***

**Benefits:** Quadriceps.

**Position:** Adjust the pulley arm to about waist level. Put foot strap on foot. Lift cable connection of foot strap up and clip it to cable end. Ensure that rotating pulley is such that pulley is down. Get in upright position shown, holding bench or pulley arm for balance.

**Action:** Slowly extend your foot down and forward until leg is just shy of full extension. Hold momentarily and return to starting position. Perform multiple repetitions and repeat exercise with other leg.

**Tips:** Keep supporting leg slightly bent to help maintain your balance. Avoid fully extending the exercising leg, stopping just shy of full extension.



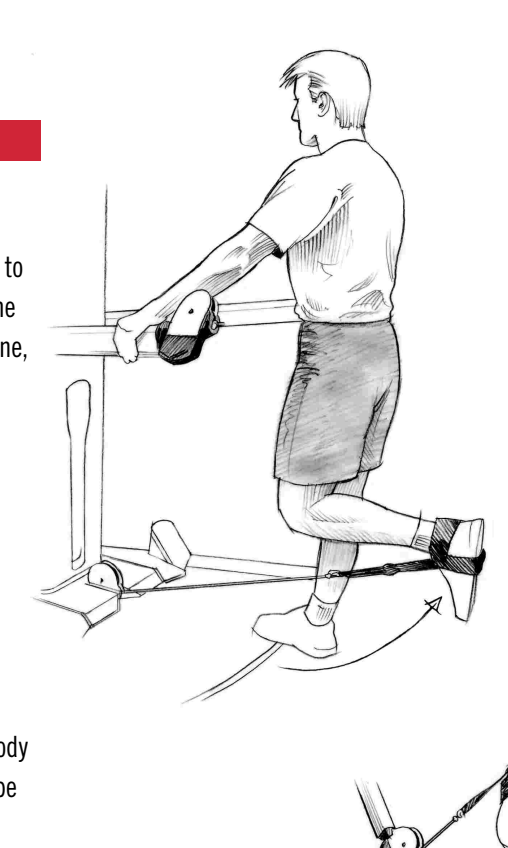
**8. Standing Leg Curl\***

**Benefits:** Hamstrings.

**Position:** Adjust the pulley arm to about waist level. Attach foot strap to one foot and connect the strap to the low center pulley. Facing the machine, grasp both arms for support.

**Action:** Standing on one leg, begin to slowly curl your connected foot towards your buttocks. Hold momentarily and return to the starting position. Perform multiple repetitions and repeat exercise with other leg.

**Tips:** Avoid swaying forward to curl your leg back further. Keep upper body motionless. Supporting leg should be slightly bent at the knee.



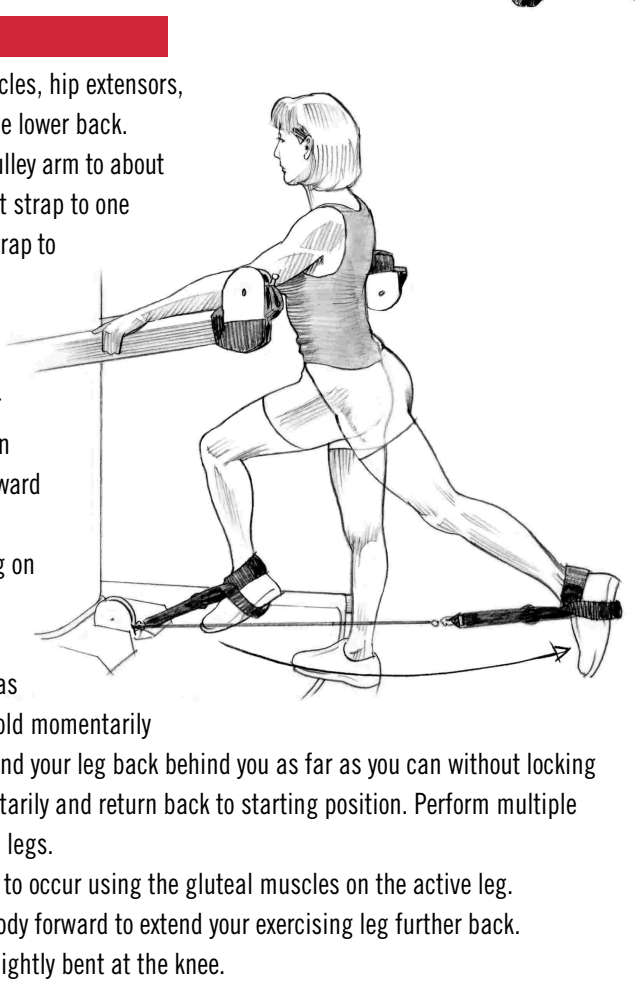
**9. Glute Kickback\***

**Benefits:** Gluteal muscles, hip extensors, and musculature of the lower back.

**Position:** Adjust the pulley arm to about waist level. Attach foot strap to one foot and connect the strap to the low center pulley. Facing the machine, grasp both arms for support. Step back far enough so that you can raise the active leg forward towards the machine.

**Action:** While standing on supporting leg, lift the active leg forward towards the machine as you bend your knee. Hold momentarily and then begin to extend your leg back behind you as far as you can without locking the knee. Hold momentarily and return back to starting position. Perform multiple repetitions and switch legs.

**Tips:** Allow the motion to occur using the gluteal muscles on the active leg. Avoid leaning upper body forward to extend your exercising leg further back. Keep supporting leg slightly bent at the knee.



**10. Golf Swing\***

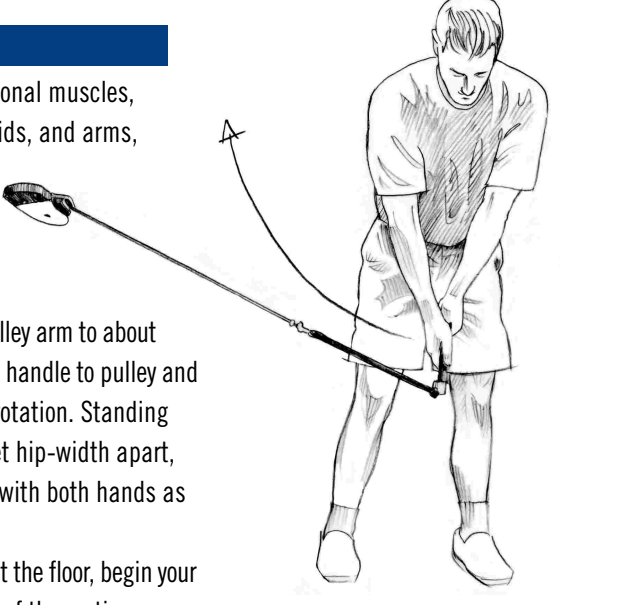
**Benefits:** Spinal rotational muscles, upper back, rear deltoids, and arms, "functional pattern strengthening activity for golf swing."

**Position:** Adjust the pulley arm to about waist level. Attach golf handle to pulley and verify pulley range of rotation. Standing sideways with your feet hip-width apart, grasp the golf handle with both hands as you would a club.

**Action:** Looking down at the floor, begin your back swing. At the top of the motion pause momentarily, then begin your down stroke keeping your arms stiff. Shift your weight to your left foot and open your hips to the left (right handed golfers). As you pass the point of ball contact, begin to rotate the hips and arms towards the ceiling. Hold momentarily at end of motion and return to starting position.

**Tips:** Start down in slow motion, concentrating on the beginning of the power stroke. Keep your head back and feel your weight move onto your forward foot. Avoid bending the wrists as you approach the end of the swing.

**Variation:** Because of the range of motion involved, many will prefer to divide the exercise up into its component halves. For the first half of the power stroke, position the pulley arm at its highest position. For the conclusion of the power stroke and follow-through, place the arm at its lowest level. Perform the golf swing one half at a time.



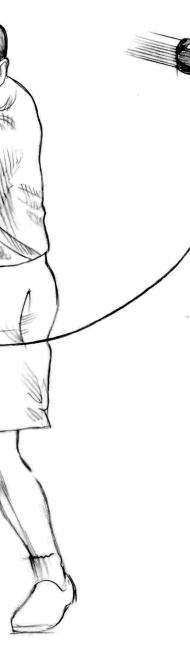
**11. Ball Kick\***

**Benefits:** Quadriceps, hip flexors.

**Position:** Adjust the pulley arm to about knee level. Attach foot strap to kicking leg and to cable, verifying pulley range of rotation. Step forward approximately one foot.

**Action:** Slowly shift your weight to your supportive leg and allow the other knee to bend as you extend your kicking foot behind you. Begin to extend your kicking foot forward until leg is at full extension. Hold momentarily and return to starting position. Perform multiple repetitions and repeat exercise with other leg.

**Tips:** Attempt to simulate a kicking motion by slightly rotating the kicking foot outward as you follow through the kicking motion. Keep supporting leg slightly bent and maintain your balance.



**12. Baseball\***

**Benefits:** Shoulders, triceps, and obliques, "functional pattern strengthening activity for sports such as baseball and softball."

**Position:** Adjust the pulley arm to just above shoulder level. Attach the bat handle and verify pulley range of rotation. Grasp handle with both hands as you assume a right or left handed batting position. Stand with feet slightly wider than your hips and knees slightly bent.

**Action:** Begin by taking a half step away from the machine and follow the motion with your hips and arms as you swing the bat handle across your body forward. Hold momentarily and return to batting stance. Repeat, switch sides.

**Tips:** Keep knees slightly bent throughout the swing and maintain stiff arms with a slight bend at the elbows. Avoid using too much weight and maintain proper form.



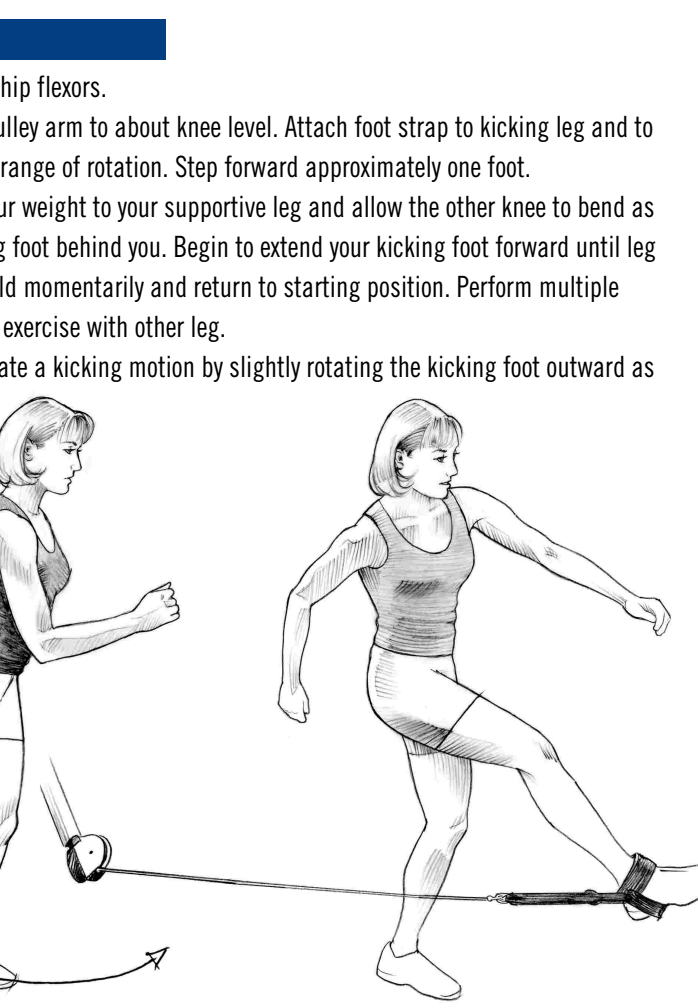
**13. Tennis Forehand\***

**Benefits:** Musculature of the shoulder joint, chest and obliques, "functional pattern strengthening activity for all sports requiring a forehand swing such as tennis, racquetball, handball, and squash."

**Position:** Adjust the pulley arm to just below hip level. Attach racquet sports handle to pulley and verify pulley range of rotation. Grasp handle with right hand and stand with feet hip width apart.

**Action:** Step forward as you begin to swing the racquet handle forward. Extend the right arm until the handle is past your left hip. Begin the back swing by reversing the motion and return to the starting position. Repeat.

**Tips:** Lead the swing with your left shoulder as you step forward. Avoid locking the elbow as you swing the arm and keep knees slightly bent. Avoid using too much weight and maintain proper form.



**14. Tennis Backhand\***

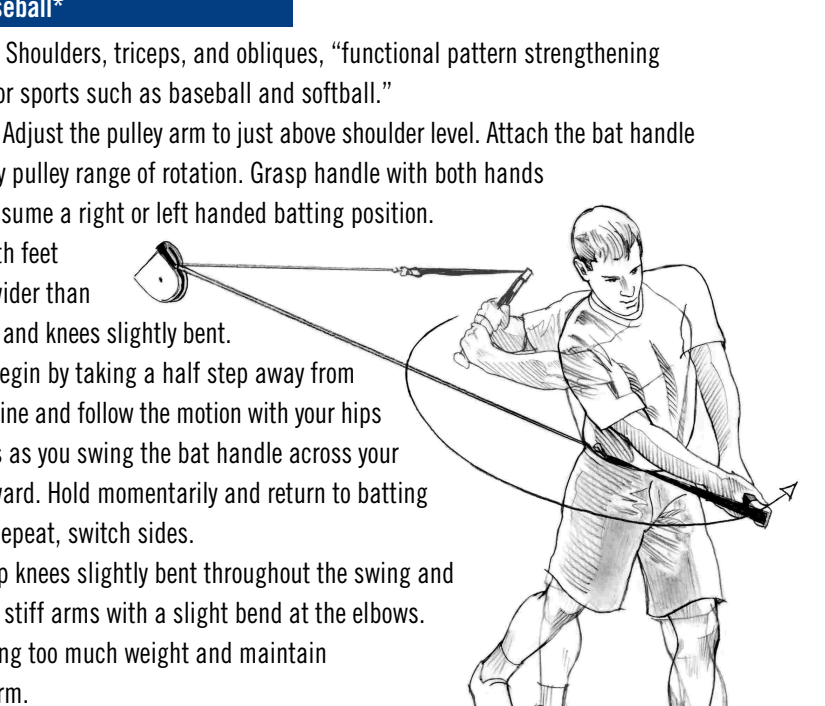
**Benefits:** Rear deltoids, triceps, and obliques, "functional pattern strengthening activity for all sports requiring a backhand swing such as tennis, racquetball, and squash."

**Position:** Adjust the pulley arm to just below hip level. Attach racquet sports handle to pulley and verify pulley range of rotation. Grasp handle with both hands and turn your body with your forward side away from the machine.

**Action:** Take a sideways step with your forward foot, as you begin to swing the racquet handle forward across your body. Extend the swing past your forward hip. Hold momentarily and return to the starting position. Repeat.

**Tips:** Keep knees slightly bent and lean into the swing using your forward shoulder. Avoid using too much weight and maintain proper form.

**Variation:** Perform a single handed backhand if desired.



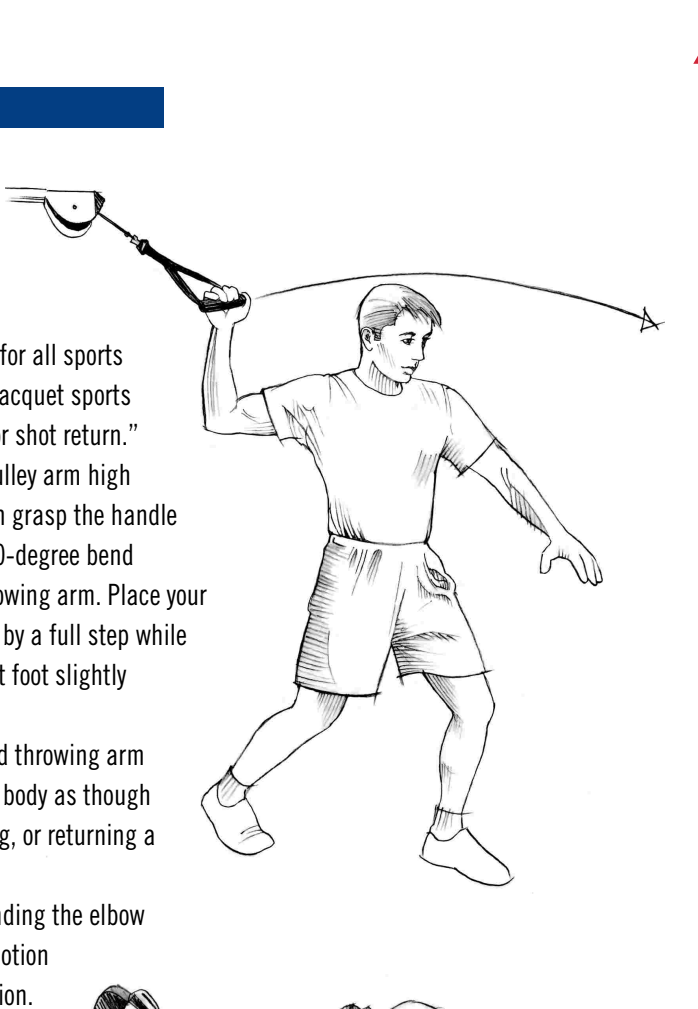
**15. Overhand Throw**

**Benefits:** Musculature of the shoulder joint, triceps, and chest on throwing side, "functional pattern strengthening activity for all sports requiring throwing or racquet sports with overhead serves or shot return."

**Position:** Adjust the pulley arm high enough so that you can grasp the handle while maintaining a 90-degree bend in the elbow of the throwing arm. Place your left foot in front of you by a full step while you maintain your right foot slightly behind your right hip.

**Action:** Pull handle and throwing arm diagonally across your body as though throwing a ball, serving, or returning a racquet shot. Repeat.

**Tips:** Avoid hyper-extending the elbow by slowing down the motion as you near full extension.



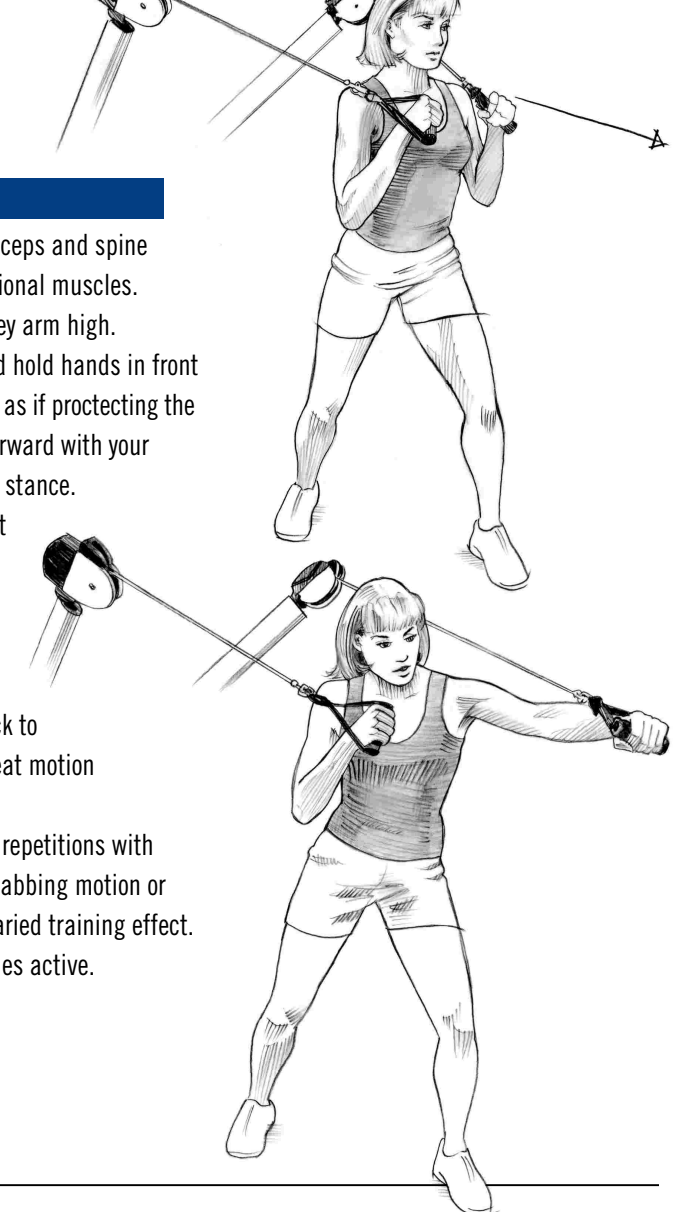
**16. Boxing**

**Benefits:** Pectorals, triceps and spine stabilization and rotational muscles.

**Position:** Position pulley arm high. Grasp each handle and hold hands in front of your chest (or higher as if protecting the face) while you step forward with your left foot. Maintain this stance.

**Action:** Extend your left arm out until your elbow is almost fully extended. Hold momentarily and return the left arm back to starting position. Repeat motion with your right arm.

**Tips:** Perform multiple repetitions with the same arm as in a jabbing motion or alternate arms for a varied training effect. Keep abdominal muscles active.



**ADVANCED FUNCTIONAL TRAINING**  
**SPORTS RELATED TRAINING**

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