

# ANATOMY OF STRENGTH TRAINING

## The 5 Essential Exercises

PAT MANOCCHIA





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# ANATOMY OF STRENGTH TRAINING

## The 5 Essential Exercises



PAT MANOCCHIA



San Diego, California



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## THE 5 ESSENTIAL EXERCISES

The ultimate objective of any strength-training program is this: effectiveness. First and foremost, effective strength training or musculoskeletal conditioning must address all of the muscles, bones, joints, ligaments, and tendons of the body. This is because the body is a system, and that system (like any other system) is only as good as its weakest link.

Therefore, in order for any strength-training program to be truly effective, it must address the body as a system, and regardless of whether it is for a sixteen-year-old or a sixty-year-old, a linebacker or a librarian, in my opinion, the program must consist of 5 Essential Exercises.

The reason that this is the case is quite simply, that when broken down into components, the body does only five things: *flexion* (bending of a joint), *extension* (straightening of a joint), *adduction* (moving limb toward the body), *abduction* (moving limb away from the body), and *rotation* (turning or twisting). In this book, I've created categories of exercises that represent each movement, and in some cases combine two different ones depending on the joint being activated:

1. Deadlift
2. Lunge
3. Push-up
4. Chin-up
5. Ab Wheel

### 1. DEADLIFT



## 2. LUNGE



## 3. PUSH-UP



#### 4. CHIN-UP



#### 5. AB WHEEL



The categories provide a 5 Essential Exercise regimen that addresses each of the body's movements. Below are the five exercises, primary muscles, and movements addressed in each exercise category.

| EXERCISE    | JOINTS          | FUNCTION                        |
|-------------|-----------------|---------------------------------|
| 1. Deadlift | Hip, Back, Knee | Extension                       |
| 2. Lunge    | Hip, Knee       | Extension, Adduction, Abduction |
| 3. Push-up  | Shoulder, Elbow | Flexion, Adduction, Extension   |
| 4. Chin-up  | Shoulder, Elbow | Extension, Flexion              |
| 5. Ab Wheel | Hip, Back, Knee | Flexion                         |

In this book, the rotational aspect of movement is basically addressed by either creating a rotational torque using unilateral resistance, or by using the same basic movement in a different plane.

I've included approximately ten to fifteen variations of each exercise, all of which make the specific category address slightly different aspects of the body's function. Any level of conditioning can be effectively built on these five movements with a very modest, very basic set of equipment.

This book includes visual and textual representations of each of the 5 Essential Exercises, as well as variations that you can make in order to adjust for skill level and intensity when using them. I've also included a basic matrix of conditioning programs depicting some different ways in which the exercises may be used. There are many, many ways to skin the proverbial cat, so consequently there is an almost unlimited amount of variety that can be created programmatically by mixing and matching elements from each of the five categories.

You must understand that the end result will also depend on how you use these essentials. The "how," or variables, that need to be manipulated for these exercises are *skill*, *time*, *intensity*, and *frequency*, or, more specifically, repetitions, sets, weights, sessions per week, increments of progression, and technique.

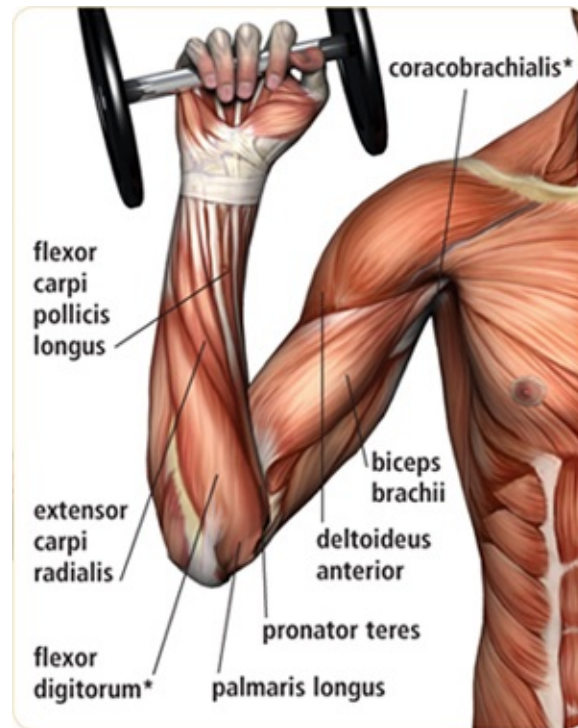
There are many excellent books on how to use these variables for a given desired effect, ranging from increased overall endurance and range of motion to absolute strength and the ability to generate power (force at high speeds), so I will not address anything in this book to that level of specificity. This book is designed to give anyone an understanding of the necessary elements of muscular conditioning and to guide you on how they should be used, with some basic programs as examples.

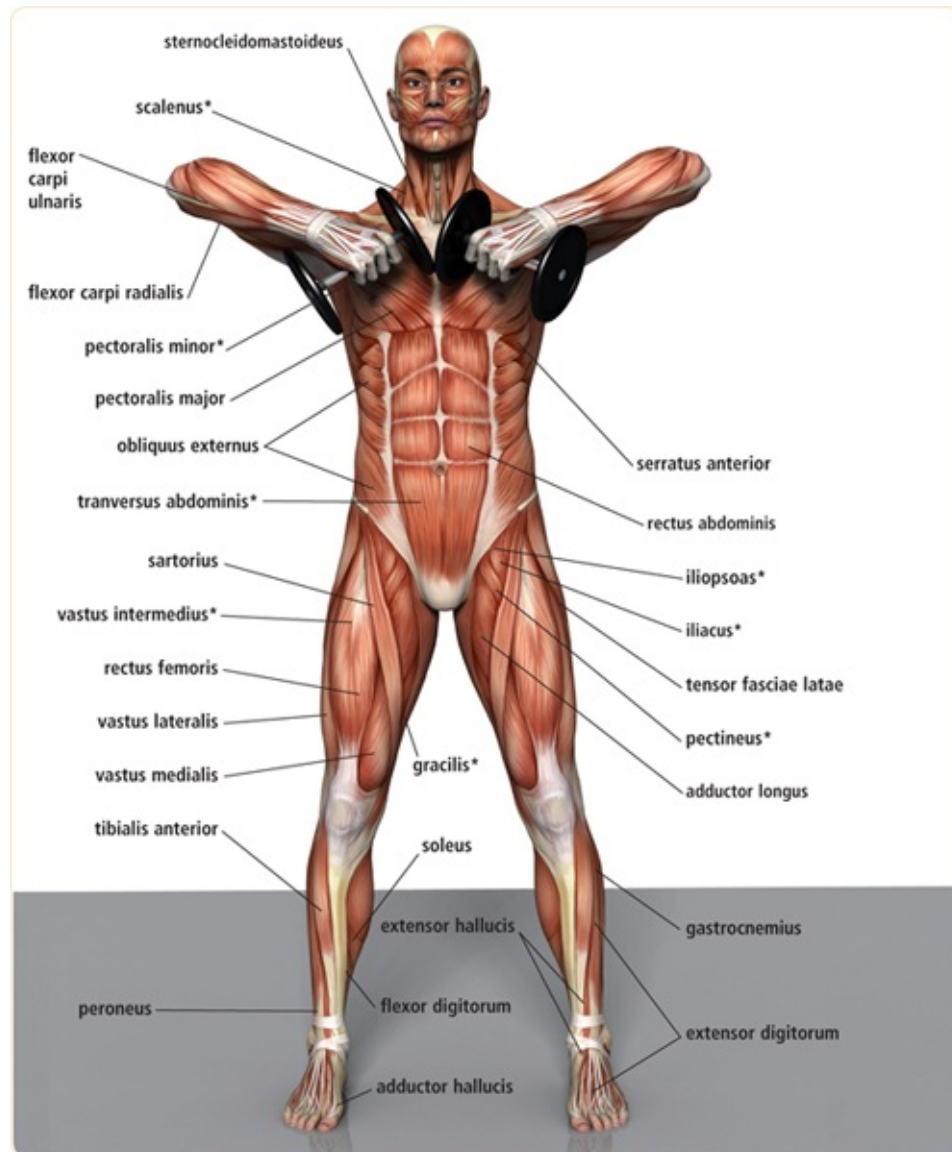


I also would like to be crystal clear from the beginning regarding the commitment required to be successful with a conditioning program: There are NO SHORTCUTS! I in no way want the reader to assume that this is a “seven-minute-a-day” deal. That is simply not ever the case. I am, and have always been, vehemently opposed to the idea of “shortening” or “condensing” the time required to become healthy and fit. It simply does not work like that. This book is ultimately about *process*, and the focus is specifically on how to maximize the quality of the process by organizing and simplifying it. I sincerely hope that the information here sheds some light on how to efficiently craft an exercise program for musculoskeletal conditioning, whether you are a rank beginner or an elite athlete.

# FULL-BODY ANATOMY

## FRONT

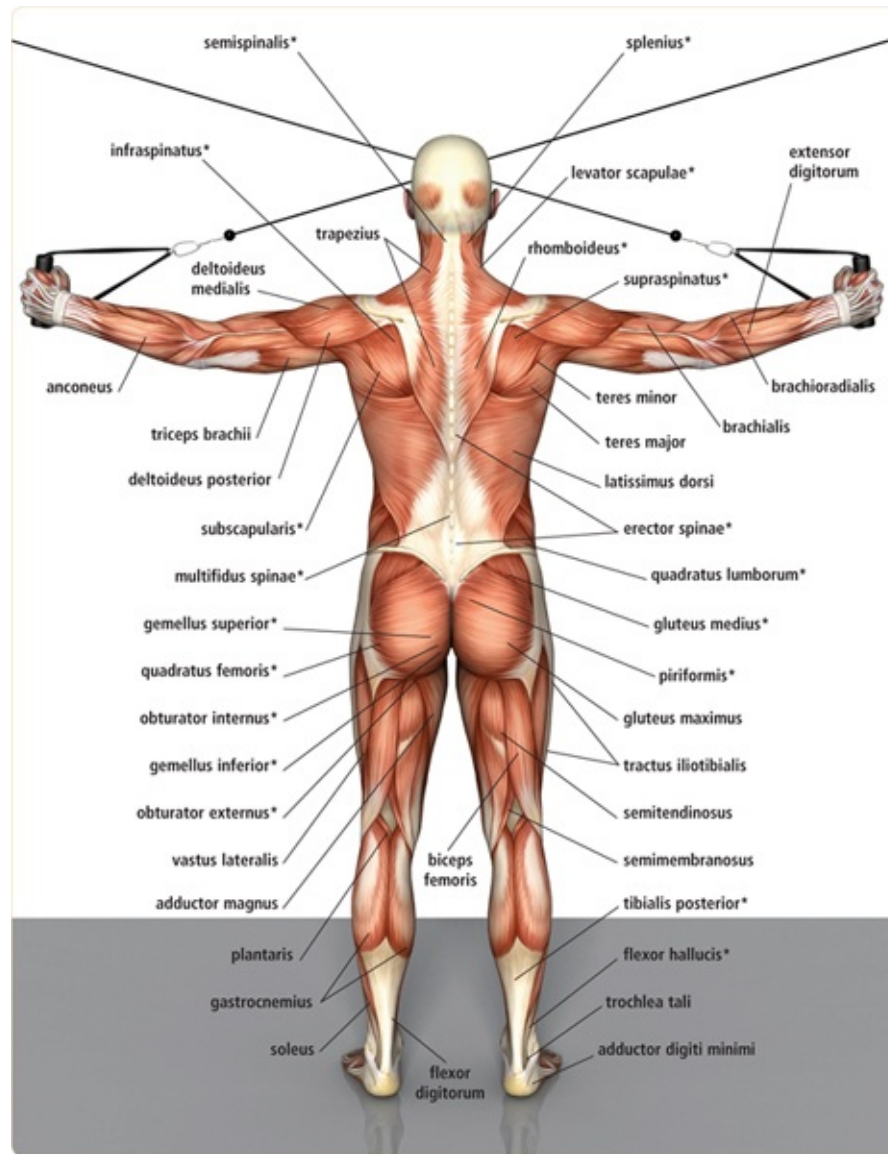




### ANNOTATION KEY

\* indicates deep muscles

BACK



## **ANNOTATION KEY**

\* indicates deep muscles



# DEADLIFT

---

Of all the traditional movements that people perform while exercising, the deadlift is arguably the most important of them all. Why? Because it is the most applicable to everyday life: it is something we do every single day, young and old, rich and poor, weak and strong. From picking up our laundry bags to carrying our briefcases, this movement—and variations of it—must be a cornerstone of any exercise program.

The joints involved are the ankle, knee, hip, spine, and shoulder (and wrist isometrically). The primary muscles are the hamstrings; glutes; calf muscles; lower, middle, and upper back muscles; shoulder muscles; and forearm muscles. In this movement, all of these muscles function primarily as extensors.

Primary benefits are hip, leg, and lower-back strength, as well as improved spinal position (posture) and range of motion (flexibility).

## FULL WITH BARBELL

1

**Starting Position:** With the barbell on the ground and your feet shoulder-width apart, stand so that your shins contact the bar. Grasp the bar with an alternating grip (with one palm facing toward you and the other away) or with palms facing inward (toward your body). Keep your spine neutral, positioned at a 45-degree angle to perpendicular. Drop and retract your hips so that your upper legs are parallel to the ground (or as close to parallel as your flexibility will allow). Position your shoulder joints directly over the bar. Make sure that your feet are flat and your weight is evenly distributed. Pull your chest, head, and rib cage up and your abdominal muscles up and in. Inhale at the bottom of the position.



2

**Action:** Exhale, and drive your torso up and backward and your hips up and

forward. Push your feet into the ground, extending your knees and pulling backward on the bar with your upper back and shoulders until you arrive at a vertical position.



3

**Movement Path:** Your hips move upward and forward while your spine and torso move upward and backward, your knees extend, and your entire body moves upward and away from the floor.





### **STABILIZE BY**

- Keeping your rib cage high and your head up.
- Pushing your shoulders down and back, with your shoulder blades flat on your rib cage.
- Keeping your knees directly over your feet.

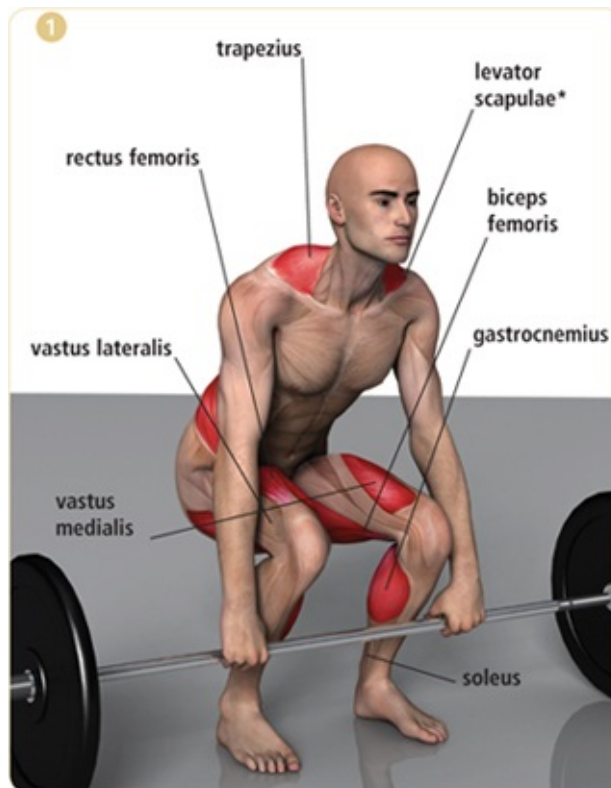
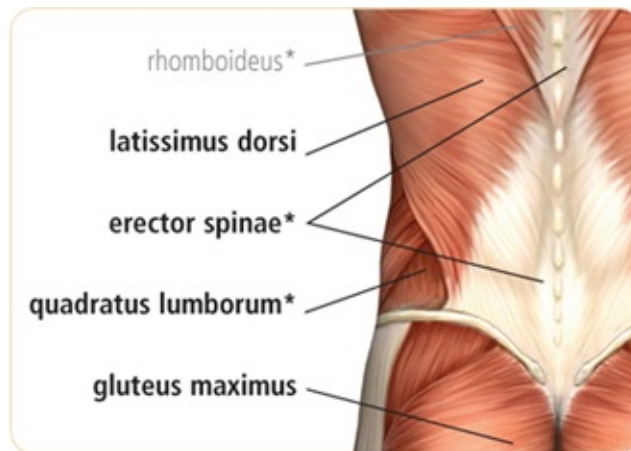
### **LOOK FOR**

- The angle of your spine to never drop below 45 degrees during the movement.
- A slight arch in your back throughout the movement.
- All of your joints to move at the same time and at the same rate.

### **AVOID**

- Straightening your knees prior to extending your back and hips.

- Rounding your back.
- Elevating your shoulders or lowering your head.
- Allowing your knees to migrate either inward or outward.





### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

### **MODIFICATION**

**Similar Difficulty:** Start with dumbbells on the ground adjacent to the outside of feet. Grasp dumbbells with palms facing inward. Follow same action and movement path.



## BEST FOR

- biceps femoris
- erector spinae
- gluteus maximus
- latissimus dorsi
- levator scapulae
- obliquus externus
- quadratus lumborum
- rectus femoris
- rhomboideus
- semimembranosus
- semitendinosus
- soleus
- trapezius
- vastus lateralis
- vastus medialis

## STRAIGHT-LEG WITH BARBELL

1

**Starting Position:** With a barbell on the ground and your feet shoulder-width apart, stand so that your shins contact the bar of the barbell. Grasp the bar with your palms facing outward (away from your body). Bend your knees slightly, keeping your spine in a neutral position and your hips elevated, so that your head, shoulders, and hips are in a straight line and parallel to the floor.

**Action:** Create tension from your hands through the back of your body, all the way to your heels. Drive your back up and your hips forward, drawing the bar in a straight line vertically adjacent to your shins, and continue until you are in a full standing position.



2

**Movement Path:** Your center of mass moves vertically upward as the line of

your torso rotates in an arc.



3



### **STABILIZE BY**

- Keeping your rib cage high, your head up, and your shoulders down and back, with your shoulder blades flat on your rib cage.

### **LOOK FOR**

- All movement to happen at the same time.
- Your spine to remain completely stable from hips to head.
- Your head to be up, with your eyes forward and looking upward.

### **AVOID**

- Allowing your spine to round (by flexing forward).
- Allowing your spine to change position in segments as it moves.
- Bending so that your hips are above your shoulders during the movement.
- Bending your elbows or shrugging your shoulders.
- Allowing your weight to rest in the front part of the foot or the bar to be forward of the toe line.







### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

### BEST FOR

- biceps femoris
- erector spinae
- gluteus maximus

- **levator scapulae**
- **quadratus lumborum**
- **rhomboideus**
- **semimembranosus**
- **semitendinosus**
- **trapezius**

## SUMO WITH KETTLEBELL

1

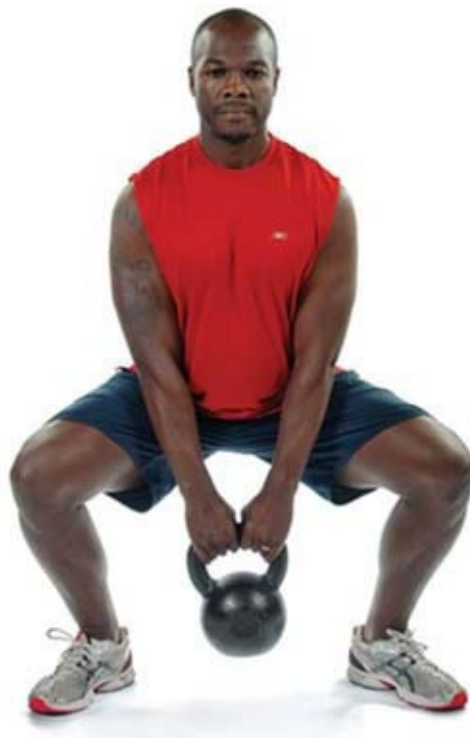
**Starting Position:** With the kettlebell on the ground and your feet slightly wider than shoulder-width apart, toes and knees pointed outward at 45-degree angles, grasp the bell with palms facing toward you. Your knees are bent so that they are directly over your toes. Keep your spine in a neutral position, positioned at a 45-degree angle to perpendicular. Your hips are dropped and retracted so that your upper legs are parallel to the ground (or as close to parallel as your flexibility will allow). Position your shoulder joints directly over the bell. Make sure that your feet are flat and your weight is evenly distributed. Pull your chest, head, and rib cage up and your abdominal muscles up and in. Inhale at the bottom of the position.



2

**Action:** Exhale, and drive your torso up and backward and your hips up and forward. Push your feet into the ground, extending your knees so that they move in a scissorlike action inward, and pull backward on the kettlebell with your upper back and shoulders until you arrive at a vertical position.

**Movement Path:** Your hips move upward and forward, while your spine and torso move upward and backward, your knees extend and move inward, and your entire body moves upward and away from the floor.



### STABILIZE BY

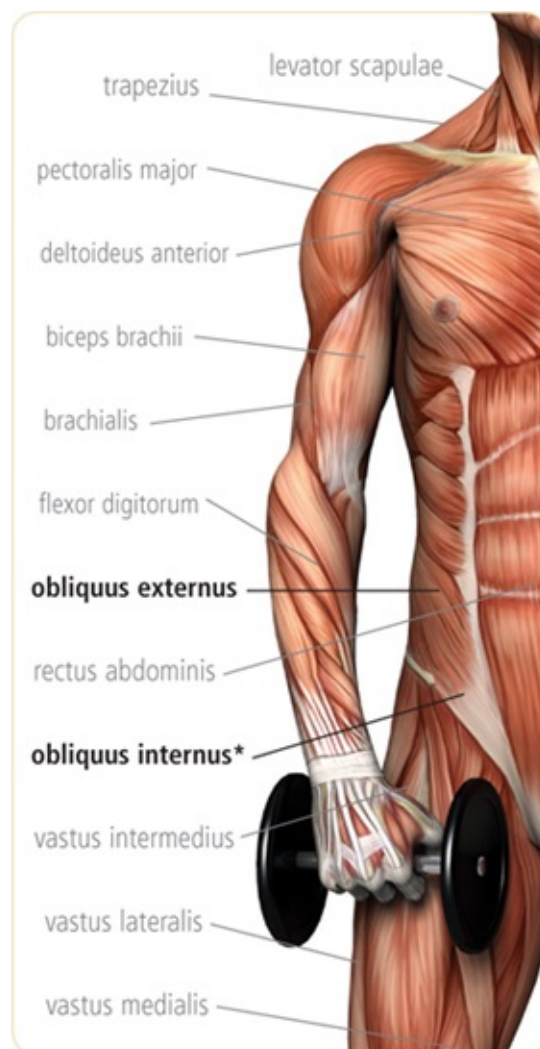
- Keeping your rib cage high and your head up.
- Pushing your shoulders down and back, with your shoulder blades flat on your rib cage.
- Keeping your knees directly over your feet.

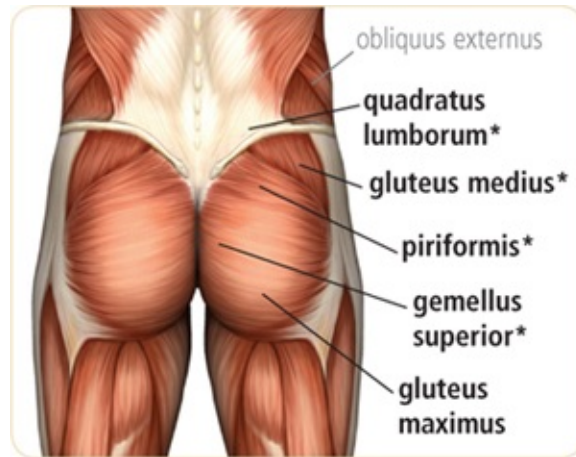
## LOOK FOR

- The angle of your spine to never drop below 45 degrees during the movement.
- A slight arch in your back throughout the movement.
- All of your joints to move at the same time and at the same rate.

## AVOID

- Straightening your knees prior to extending your back and hips.
- Rounding your back.
- Elevating your shoulders or lowering your head.
- Allowing your knees to migrate either inward or outward.





#### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

**More Difficult:** With two kettlebells on the ground and your feet slightly wider than shoulder-width apart, toes and knees pointed outward at 45-degree angles, grasp the pair of kettlebells. Follow same action and movement path as with single kettlebell.



## MODIFICATIONS

**More Difficult:** Holding the kettlebell directly in front of you, with arms extended, straddle boxes or blocks in the movement, going as deeply as you can while still maintaining spinal position.



## BEST FOR

- quadratus lumborum
- rectus femoris
- soleus
- biceps femoris
- semitendinosus
- semimembranosus
- gastrocnemius
- adductor magnus



- **adductor longus**
- **gracilis**
- **gluteus maximus**
- **rectus abdominis**
- **obliquus internus**
- **obliquus externus**
- **trapezius**
- **levator scapulae**
- **vastus lateralis**
- **vastus medialis**
- **vastus intermedius**

# FULL SINGLE-LEG WITH DUMBBELLS

1

**Starting Position:** Stand on your right leg, and bend your left leg to a 90-degree angle. Keep your torso upright, and squeeze your shoulder blades together. Hold dumbbells in both hands.

**Movement Path:** Your center of mass descends vertically, and your torso moves in an arc, as though rotating around the center of a circle.



2

**Action:** Bend your right leg slightly as you bend over from your hips and reach the dumbbells toward the floor. Keep your chest up and your back slightly arched. Your left leg remains bent at 90 degrees throughout the exercise. Once you've touched the floor or gone as deep as you can, squeeze your gluteals and shoulder blades as you stand up again.



### STABILIZE BY

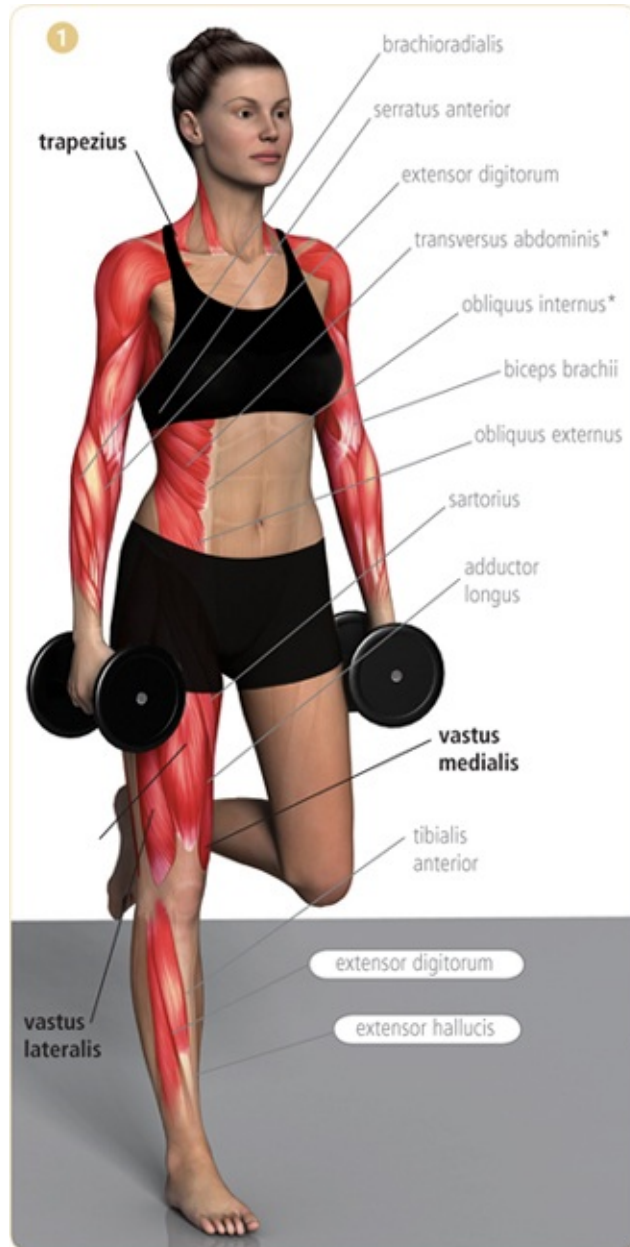
- Maintaining a focus on balance—it is key! Look and focus on a spot in front of you as you bend over, balancing on one leg.
- Contracting your quadriceps on the eccentric movement and your hamstrings and gluteals on the concentric movement.

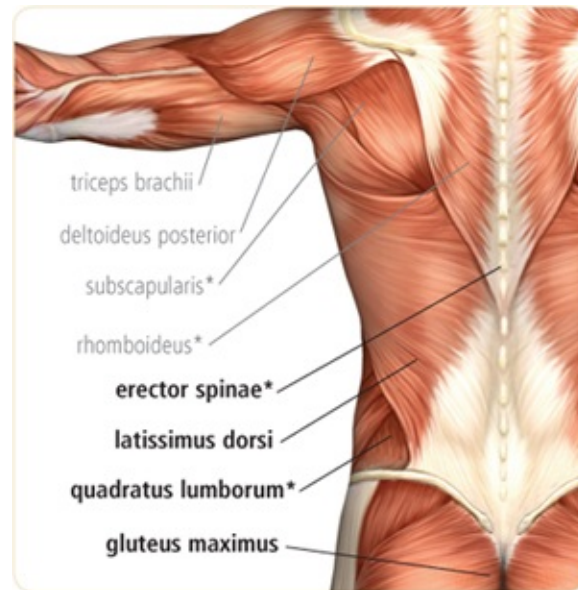
### **LOOK FOR**

- Your spine to remain in a constant position throughout the movement.
- Your torso to flex forward from the hip joint.
- Your hamstrings to stretch; allow your pelvis to rotate forward from below the waist.

### **AVOID**

- Improper form. Correct posture is extremely important: make sure that your chest is up and your back is slightly arched. If you can't bend over very far in this position, that's okay. It is better to have proper posture than greater range of motion.
- Rounding your back.
- Allowing your shoulder blades to slip forward.





## ANNOTATION KEY

Black text indicates active muscles Gray text indicates stabilizing muscles \*  
indicates deep muscles

## BEST FOR

- biceps femoris
- erector spinae
- gluteus maximus
- latissimus dorsi
- quadratus lumborum
- rectus femoris
- semimembranosus
- semitendinosus
- vastus lateralis
- vastus medialis

## STRAIGHT-LEG WITH DUMBBELL

1

**Starting Position:** Holding the dumbbell directly in front of one leg, and your feet shoulder-width apart, place the opposite hand behind your head, elbow facing out to the side. Bend your knees slightly, keeping your spine in a neutral position and your hips elevated, so that your head, shoulders, and hips are in a straight line and parallel to the floor.





2

**Action:** Descend by retracting your hips and dropping your chest and rib cage forward. Create tension from your hands through the back of your body, all the way to your heels. Return by driving your back up and your hips forward, drawing the dumbbell in a straight line vertically adjacent to your shins, and continue until you are in a full standing position.

**Movement Path:** Push your feet into the ground as you drive your shoulders back and up and your hips forward simultaneously.



### STABILIZE BY

- Keeping your rib cage high, your head up, and your shoulders down and back, with your shoulder blades flat on your rib cage.

### **LOOK FOR**

- Keeping weight evenly distributed through hips, legs, and feet into the ground.
- All movement to happen at the same time.
- Your spine to remain completely stable from hips to head.
- Your head to be up, with your eyes forward and looking upward.

### **AVOID**

- Allowing your spine to round (by flexing forward) or change position in segments as it moves.
- A rotation of any part of the spine or upper body.
- Bending so that your hips are above your shoulders during the movement.
- Bending your elbows or shrugging your shoulders.
- Allowing your weight to rest in the front part of the foot or the dumbbell to be forward of the toe line.



### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

### **MODIFICATION**

**Similar Difficulty:** Replace the dumbbell with a kettlebell and maintain the same action and movement path.



## BEST FOR

- erector spinae
- rhomboideus
- quadratus lumborum
- vastus lateralis
- vastus medialis
- vastus intermedius
- rectus femoris
- soleus
- adductor magnus
- biceps femoris
- semitendinosus
- semimembranosus
- gastrocnemius

## SINGLE-LEG/STRAIGHT-LEG WITH KETTLEBELL

1

**Starting Position:** Stand on your right leg, and keep your left slightly behind your right heel, bearing little to no weight. Keep your torso upright, and squeeze your shoulder blades together. Hold the kettlebell in your left hand.



2

**Action:** Bend your right leg very slightly as you bend over from your hip, and reach the kettlebell toward the floor. Make sure that you keep your chest up and your back slightly arched. Your left leg remains in line with your spine throughout the exercise. Once you've touched the floor or gone as deep as you can, squeeze your gluteal hamstrings and shoulder blades as you stand up on your right leg, while your left leg returns to starting position.

**Movement Path:** The movement path consists of starting in an erect position

and going into a bent-over position, originating at the hip joint, and then returning to the erect position.



### **STABILIZE BY**

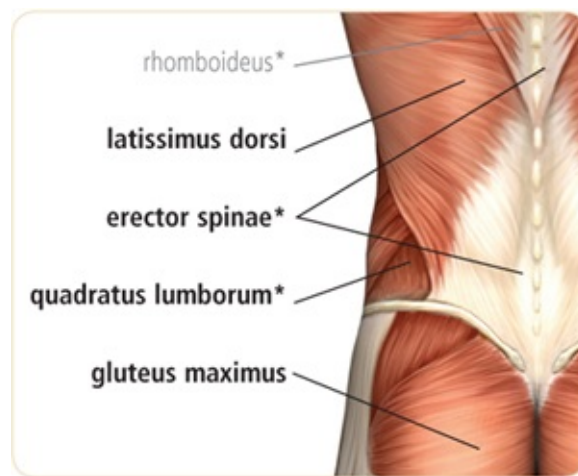
- Maintaining a focus on balance—it is key! Look and focus on a spot in front of you as you bend over, balancing on one leg.
- Contracting your quadriceps on the eccentric movement and your hamstrings and gluteals on the concentric movement.
- Keeping your low back solid and keeping opposite leg straight and gluteus contracted.

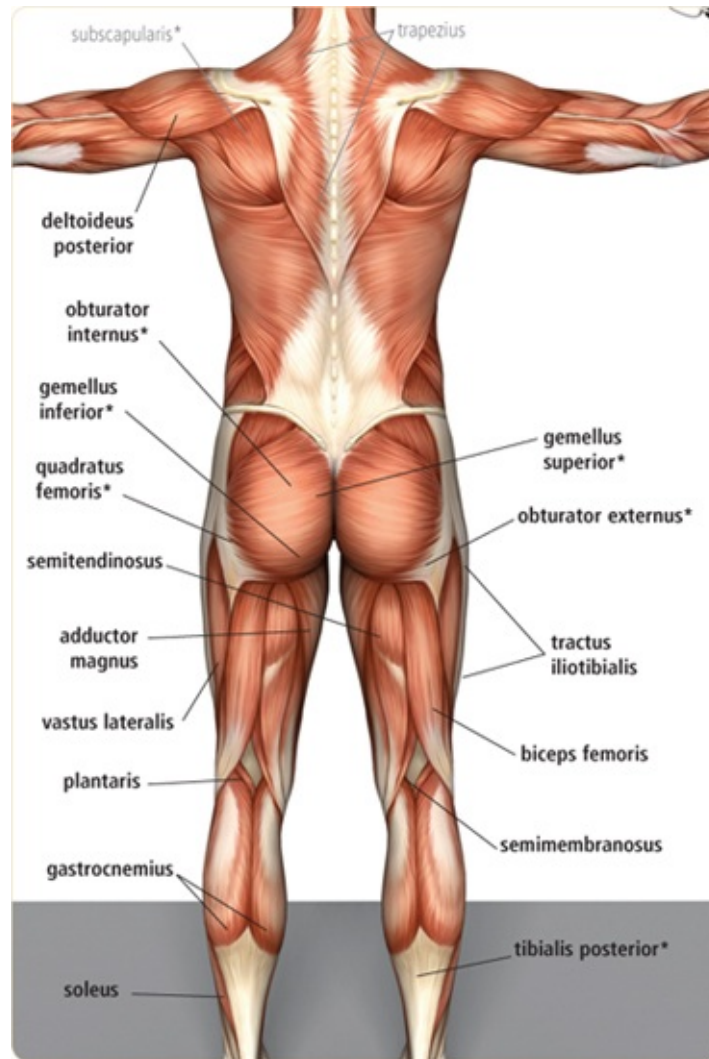
### **LOOK FOR**

- Spine to remain in a constant position throughout the movement.
- Torso to flex forward from the hip joint.
- Hamstrings to stretch and allow pelvis to rotate forward from below the belt.
- Opposite leg to work as a counterbalance.

## AVOID

- Improper form. Correct posture is extremely important: make sure that your chest is up and your back is slightly arched. If you can't bend over as far in this position, that is okay. It is better to have proper posture than greater range of motion.
- Rounding the back/spine.
- Allowing the shoulder blades to slip forward.
- Not keeping the opposite leg and spine in a straight line at all times.









### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- biceps femoris
- semitendinosus
- semimembranosus
- vastus lateralis
- vastus medialis
- vastus intermedius
- rectus femoris

- gluteus maximus
- erector spinae
- latissimus dorsi
- quadratus lumborum
- deltoideus posterior
- piriformis
- adductor longus
- adductor magnus
- gluteus medius
- gastrocnemius
- soleus
- tibialis posterior
- tibialis anterior
- peroneus
- flexor hallucis
- extensor hallucis
- transversus abdominis
- serratus anterior
- obliquus internus\*
- subscapularis
- rhomboideus
- trapezius

# MEDICINE BALL RAISE

1

**Starting Position:** Stand on one foot, bending the raised knee, and grasp a medicine ball just below and to the outside of the knee on the standing leg.



2

**Action:** Stand, extending your leg, while bringing the ball across your body to above and outside the opposite shoulder.

**Movement Path:** Your upper body rotates as your center of mass shifts upward. The ball moves in an arc across your body.



### **STABILIZE BY**

- Pulling your abdomen up and in.
- Distributing your weight evenly across your foot.
- Using all muscles and joints in a coordinated, relaxed manner.

### **LOOK FOR**

- Your knee and hip to extend and rise at the same time.
- The ball to remain equidistant from your torso throughout the movement.
- Your elbows to remain extended.

## AVOID

- Excessive flexion of your torso and spine.
- Bringing the ball close to your body or lifting any part of your foot from the floor.





### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

### BEST FOR

- biceps femoris
- erector spinae
- extensor hallucis

- **flexor hallucis**
- **gluteus maximus**
- **gluteus medius**
- **infraspinatus**
- **piriformis**
- **quadratus lumborum**
- **rectus femoris**
- **semimembranosus**
- **semitendinosus**
- **soleus**
- **tibialis anterior**
- **tibialis posterior**
- **vastus lateralis**
- **vastus medialis**

## FULL CABLE WITH ROTATION

**Starting Position:** Standing with feet slightly wider than shoulder-width apart, grasp the cable with both hands directly in front of you at your body's midline. See figure 1, [page 31](#).

**Action:** Drop and retract your hips so that the tops of your legs are parallel to the ground (or as close to parallel as your flexibility will allow). Position your shoulder joints directly over your feet. Make sure that your feet are flat and your weight is evenly distributed. Pull your chest, head, and rib cage up and your abdominal muscles up and in. Inhale at the bottom of the position. Exhale, and drive your torso up and backward and your hips up and forward. Push your feet into the ground, extending your knees until you arrive at a vertical position.

**Movement Path:** Your hips move upward and forward while your spine and torso move upward and backward, your knees extend, and your entire body moves upward and away from the floor.





### **STABILIZE BY**

- Keeping your rib cage high and your head up.
- Pushing your shoulders down and back, with your shoulder blades flat on your rib cage.
- Keeping your knees directly over your feet.

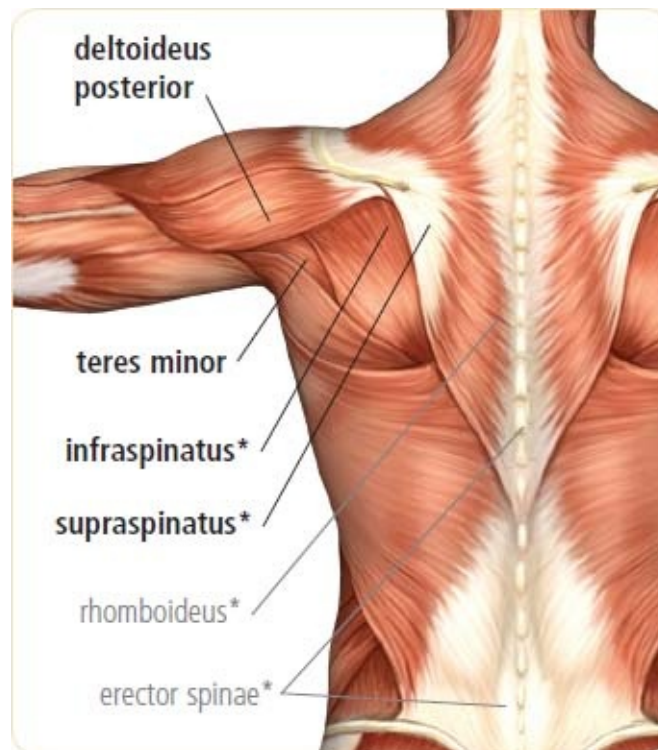
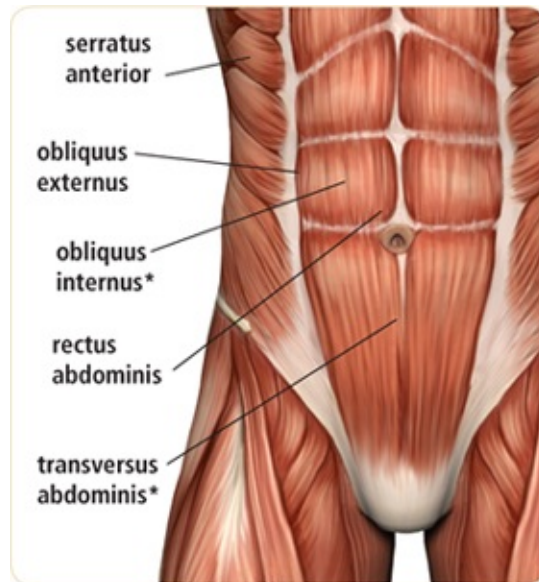
### **LOOK FOR**

- The angle of your spine to never drop below 45 degrees during the movement.
- A slight arch in your back throughout the movement.
- All of your joints to move at the same time and at the same rate.

## AVOID

- Straightening your knees prior to extending your back and hips.
- Rounding your back.
- Elevating your shoulders or lowering your head.
- Allowing your knees to migrate either inward or outward.





#### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

**BEST FOR**

- **erector spinae**
- **rhomboideus**
- **latissimus dorsi**
- **teres major**
- **quadratus lumborum**
- **trapezius**
- **levator scapulae**
- **vastus lateralis**
- **vastus medialis**
- **vastus intermedius**
- **rectus femoris**
- **soleus**
- **biceps femoris**
- **semitendinosus**
- **semimembranosus**
- **gastrocnemius**
- **gluteus maximus**
- **rectus abdominis**
- **obliquus internus**
- **obliquus externus**
- **flexor digitorum**
- **deltoideus posterior**
- **adductor longus**
- **adductor magnus**
- **sartorius**
- **gracilis**

## STRAIGHT-LEG CABLE

1

**Starting Position:** Grasp cable in one hand at your side so that the cable crosses the front of both legs. With your feet shoulder-width apart, place the opposite hand behind your head with elbow facing out to the side. Bend your knees slightly, keeping your spine in a neutral position and your hips elevated, so that your head, shoulders, and hips are in a straight line and parallel to the floor.



2

**Action:** Descend by retracting your hips and dropping your chest and rib cage forward. Create tension from your hand through the back of your body, all the way to your heels. Return by driving your back up and your hips forward, keeping your hand adjacent to your leg, your shoulder steady (continue until you are in a full standing position).

**Movement Path:** Push your feet into the ground as you drive your shoulders back and up and your hips forward simultaneously.



### STABILIZE BY

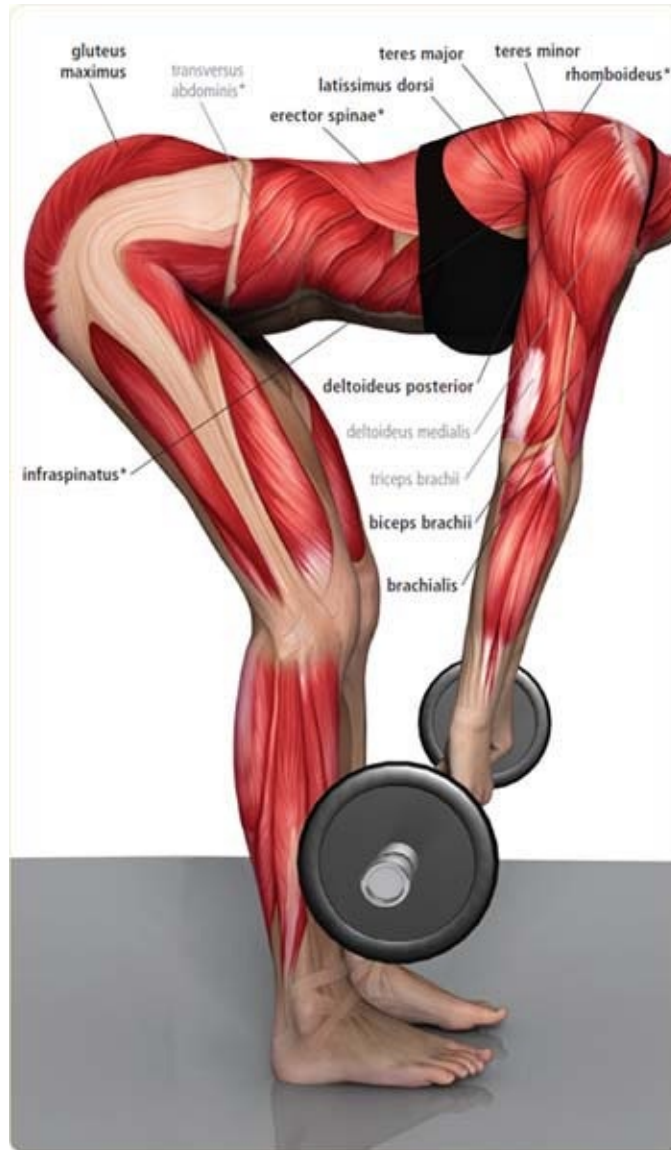
- Keeping your rib cage high, your head up, and your shoulders down and back with your shoulder blades flat on your rib cage, hand with cable solid and stable.

## **LOOK FOR**

- Keeping weight evenly distributed through hips, legs, and feet into the ground.
- All movement to happen at the same time.
- Your spine to remain stable from hips to head with no rotation.
- Your head to be up, with your eyes forward and looking upward.
- Knees and hips to remain parallel.

## **AVOID**

- Rotation of any part of the spine or upper body.
- Allowing your spine to round or change position in segments.
- Bending so that hips are above your shoulders.
- Bending your elbows or shrugging your shoulders.
- Allowing your weight to rest in the front part of the foot or the cable to be forward of the toe line.







### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

### **MODIFICATION**

**More Difficult:** Grasp the cable with both hands directly in front of you at the body's midline. Use the exact same action and movement path.



## BEST FOR

- erector spinae
- rhomboideus
- quadratus lumborum
- vastus lateralis
- vastus medialis
- vastus intermedius
- rectus femoris
- soleus
- adductor magnus
- biceps femoris

- **semitendinosus**
- **semimembranosus**
- **gastrocnemius**

## BAG FLIP

1

**Starting Position:** With a punching bag on the ground and your feet shoulder-width apart, grasp the bag with your palms facing each other. Bend your knees so that your knees are over your toes. Keep your spine in a neutral position, positioned at a 45-degree angle to perpendicular. Your hips are dropped and retracted so that the tops of your legs are parallel to the ground (or as close to parallel as your flexibility will allow). Position your shoulder joints directly over the bag. Make sure that your feet are flat and your weight is evenly distributed. Pull your chest, head, and rib cage up and your abdominal muscles up and in. Inhale at the bottom of the position.





3

**Action:** Exhale, and drive your torso upward and your hips up and forward. Push your feet into the ground, extending your knees and pulling upward on the bag, forcefully and quickly, with your upper back, shoulders, and elbows. Elevate onto your toes, and follow through with your hands upward and forward away from your body, releasing the bag in one fluid movement.



4

**Movement Path:** Your hips move upward and forward while your spine and torso move upward and slightly backward, your knees extend, and your entire body moves upward and away from the floor.



#### **STABILIZE BY**

- Keeping your rib cage high and your head up.
- Keeping your spine in a solid, neutral position.
- Keeping your knees directly over your feet.

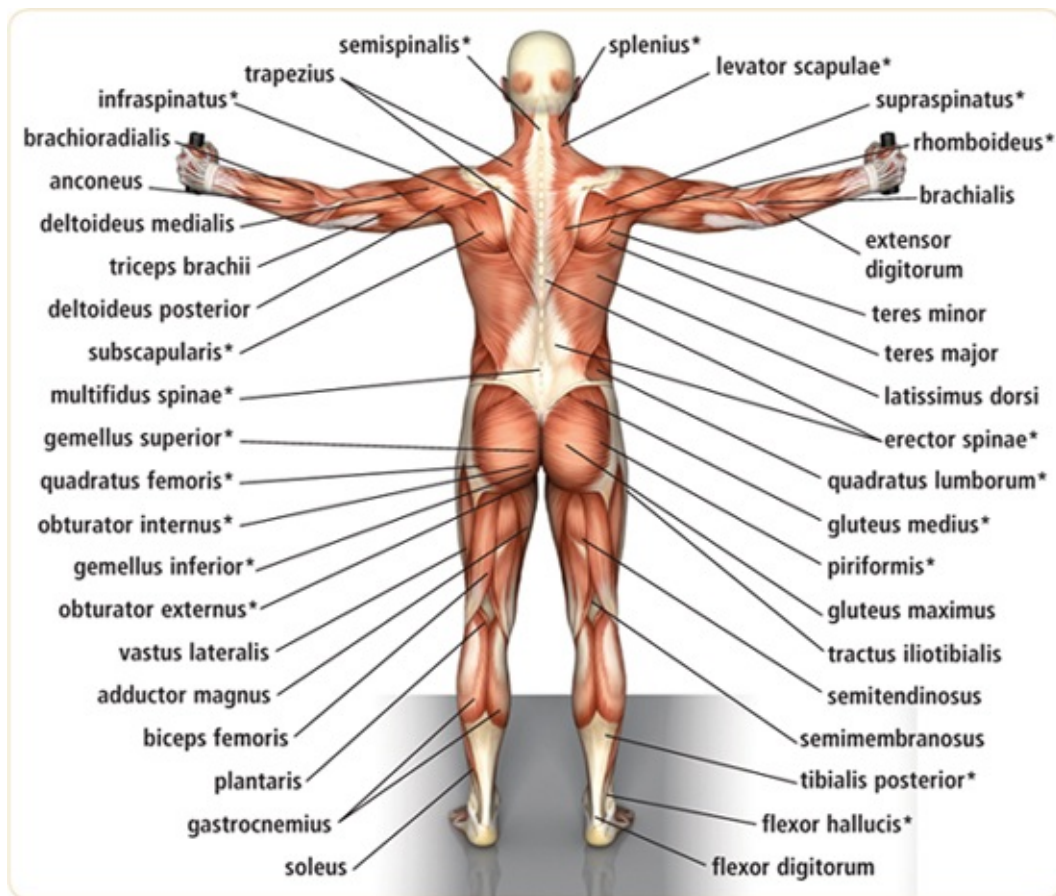
#### **LOOK FOR**

- The angle of your spine to never drop below 45 degrees during the movement.

- A slight arch in your back throughout the movement.
- All of your joints to move at the same time and at the same rate.

## AVOID

- Straightening your knees prior to extending your back and hips.
- Rounding your back.
- Lowering your head.
- Allowing your knees to migrate either inward or outward.



- biceps femoris
- erector spinae
- gluteus maximus
- latissimus dorsi
- levator scapulae
- obliquus externus
- quadratus lumborum
- rectus femoris
- rhomboideus
- semimembranosus



- **semitendinosus**
- **soleus**
- **trapezius**
- **vastus lateralis**
- **vastus medialis**

## FULL WITH DUMBBELL

1

**Starting Position:** With the dumbbell on the ground and your feet slightly wider than shoulder-width apart, grasp the dumbbell with palm facing toward you. Place the other hand behind your head, elbows pointing outward. Your knees are positioned so that they are directly over your toes. Keep your spine in a neutral position.

**Action:** Bend as deeply as you can while still maintaining spinal position. Your hips are dropped and retracted so that your upper legs are parallel to the ground (or as close to parallel as your flexibility will allow). Position your shoulder joints directly over your feet. Make sure that your feet are flat and your weight is evenly distributed. Pull your chest, head, and rib cage up and your abdominal muscles up and in. Inhale at the bottom of the position. Exhale, and drive your torso up and backward and your hips up and forward. Push your feet into the ground, extending your knees and pulling upward on the dumbbell with your upper back and shoulders until you arrive at a vertical position.



2

**Movement Path:** Your hips move upward and forward, while your spine and torso move upward and backward, your knees extend and move inward, and your entire body moves upward and away from the floor.



### **STABILIZE BY**

- Keeping your rib cage high and your head up.
- Pushing your shoulders down and back, with your shoulder blades flat on your rib cage.
- Keeping your knees directly over your feet.

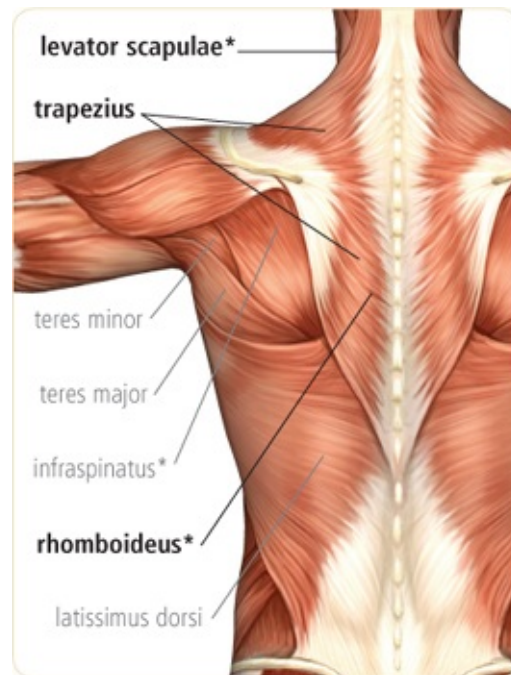
### **LOOK FOR**

- The angle of your spine to never drop below 45 degrees during the movement.

- A slight arch in your back throughout the movement.
- All of your joints to move at the same time and at the same rate.
- The dumbbell to drop in a straight vertical line.

## **AVOID**

- Straightening your knees prior to extending your back and hips.
- Rounding your back.
- Elevating your shoulders or lowering your head.
- Allowing your knees to migrate either inward or outward.
- Any rotation of the torso, hips, or shoulders.





#### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## **BEST FOR**

- erector spinae
- rhomboideus
- latissimus dorsi
- teres major
- quadratus lumborum
- levator scapulae
- trapezius
- vastus lateralis
- vastus medialis
- vastus intermedius
- rectus femoris

- soleus
- biceps femoris
- semitendinosus
- semimembranosus
- gastrocnemius
- adductor magnus
- adductor longus
- gracilis
- adductor brevis
- gluteus maximus
- rectus abdominis
- obliquus internus
- obliquus externus
- flexor digitorum
- deltoideus posterior
- obturator externus
- gluteus medius
- piriformis





## LUNGE

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In order for the body to function properly, the legs, hips, and back must be strong, stable, and flexible. Lunges address all three of these body parts in one movement. Lower-back and disk-related injuries are rampant, as are knee injuries (such as to the anterior cruciate ligament and meniscus, patellofemoral pain, and iliotibial band syndrome). A vast majority of these injuries stem from one of the following three issues: strength imbalances, instability, and inflexibility. It is also common for injuries to result from a combination of two or all of them at once. A steady diet of lunges will, without question, improve strength, stability, and flexibility and lower the possibility of related injuries.

Joints involved are the ankle, knee, and hip. The muscles involved are those of the legs, glutes, lower back, and stomach.

Primary benefits are leg and hip strength, flexibility, and balance.

# STATIONARY

**Starting Position:** Stand with your feet close together and your hands on your hips.

**Action:** Keeping your head up, your spine in a neutral position, and your hands on your hips, take a step forward, bending your front knee to a 90-degree angle and dropping your front thigh until it is parallel to the ground. Your back knee drops straight down behind you, so that you are balancing on the toe of your foot to create a 90-degree angle in your knee joint and a straight line from your spine through your bottom knee. Return to the starting position by pushing on your front foot and elevating with your back leg until standing.

**Movement Path:** The general motion is forward and descending. Your spine stays in a vertical position and is translated forward and downward by the step and the descent.



### **STABILIZE BY**

- Keeping your chest high, stomach up, and spine neutral.
- Evenly distributing your weight across your front foot, from front to back.
- Keeping your back foot on the toe and your weight in the back of the stepping leg.

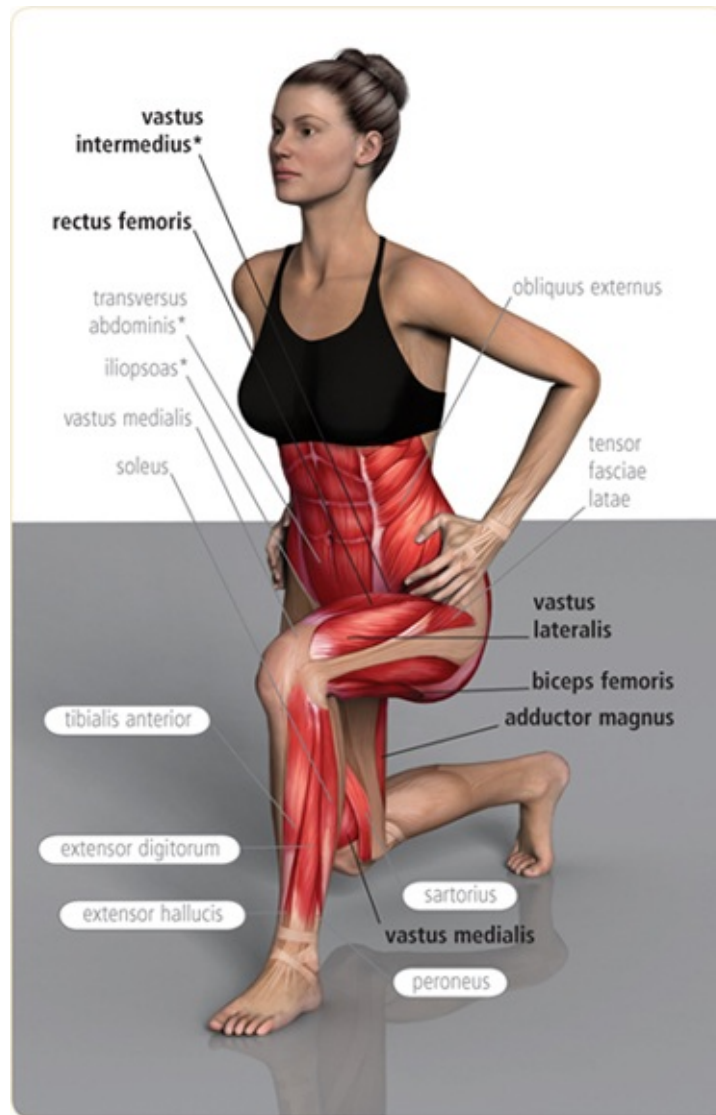
### **LOOK FOR**

- No translation forward from the hips (do not bend).
- Your spine to remain in the same position as it moves down and up.

- No lateral movement of your leg as you step, either landing or pushing.

## **AVOID**

- Raising the heel of your stepping foot off the ground or rotating your hips or torso.





### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

### MODIFICATION

**More Difficult:** Holding a barbell overhead or dumbbells at sides, repeat the same action and movement path.



## BEST FOR

- adductor magnus
- biceps femoris
- gluteus maximus
- rectus femoris
- vastus intermedius
- vastus lateralis
- vastus medialis

## WALKING WITH ROTATION

1

**Starting Position:** Stand with your feet close together and your hands on your hips. With palms facing each other and arms extended at chest height, grasp a medicine ball on the sides.

**Action:** Keeping your head up, your spine in a neutral position, and both hands in front of you, step forward, bending your front knee to a 90-degree angle and dropping your front thigh until it is parallel to the ground. Your back knee drops straight down behind you, so that you are balancing on the toe of your foot, to create a 90-degree angle in your knee joint and a straight line from your spine through your bottom knee. During the stepping-out process, simultaneously move the ball across your body 45 degrees to the side of the forward leg, keeping arms extended and level.



2

**Movement Path:** A forward motion and a descending motion. Your spine stays in a vertical position and is translated forward and down by the step and the deceleration. Return to the starting position by pushing on your front foot and elevating with your back leg while bringing the ball back to starting position. Repeat with other leg.





### **STABILIZE BY**

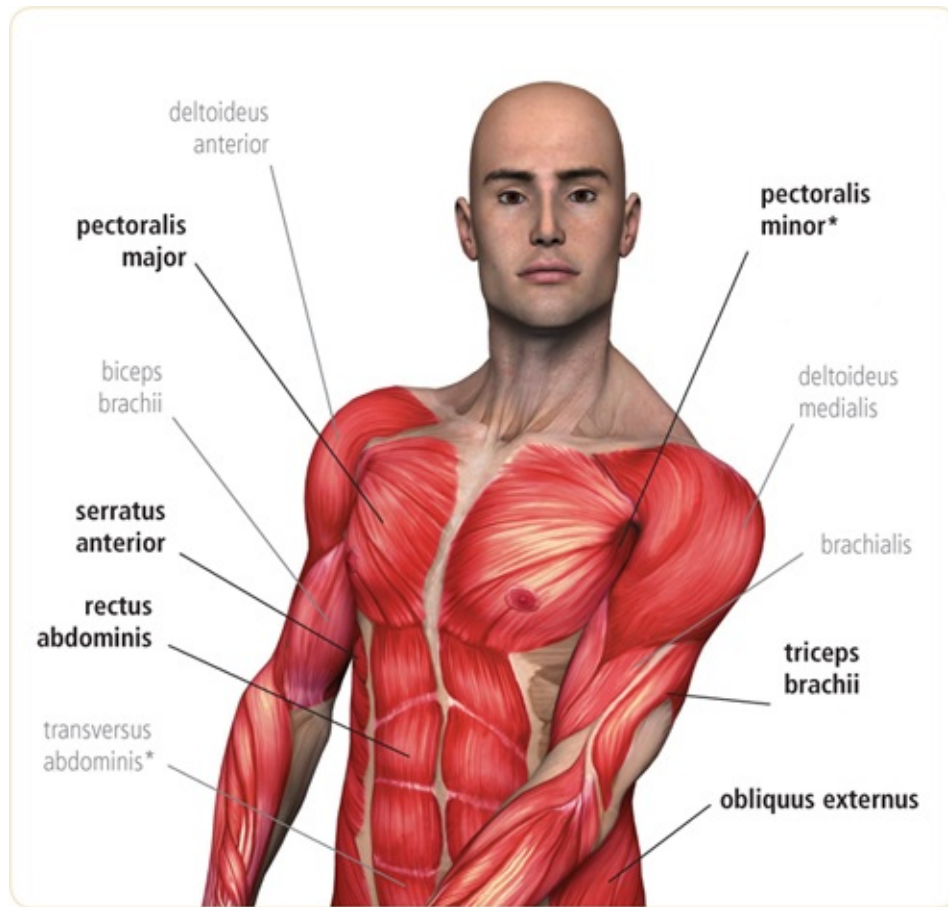
- Keeping your chest high, stomach up, and spine neutral.
- Evenly distributing your weight across your front foot, from front to back.
- Keeping your back foot on the toe and your weight in the back of the stepping leg.

### **LOOK FOR**

- No translation forward from the hips or your spine.
- Your spine to remain in the same position as it moves down and up.
- No lateral movement of your leg as you step, either landing or pushing.

### **AVOID**

- Raising the heel of your stepping foot off the ground or rotating your hips or torso.





### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

### **MODIFICATION**

#### **Less Difficult:**

Fold hands behind head. Use the same action and movement path.



## BEST FOR

- gluteus maximus
- vastus lateralis
- vastus medialis
- vastus intermedius
- biceps femoris
- rectus femoris
- adductor magnus
- erector spinae
- soleus
- tibialis anterior

# LATERAL

**Starting Position:** Stand vertically with your feet directly below your hips and your hands on your hips.



**Action:** Step directly out to the side at 180 degrees, retracting your hips and keeping your spine neutral. As your chest moves forward and your hips retract, extend your arms to ensure balance. Stop at the bottom of the movement when the upper thigh of your stepping leg is parallel to the ground. The opposite knee should be extended, your hips should be behind the

stepping foot, and your knee should not exceed the toe line and should be directly over the foot. Your upper arms should be parallel to the ground. Pushing back off the stepping leg, return to the starting position.

**Movement Path:** As you move laterally to the side, your arms go forward and your hips go back. Your torso drops as your hips retract. Use one foot as both decelerator and accelerator. Use the standing or stationary foot as a balance lever.

### **STABILIZE BY**

- Keeping your hips retracted, your chest up, and using your arms as a counterbalance to the retraction of your hips.
- Keeping the opposite leg in contact with the floor, and maintaining tension on your quadriceps and hamstrings, so that your knee is locked and extended.

### **LOOK FOR**

- A simultaneous movement of your arms and hips.
- Your chest to remain up and your shoulders to remain down.

### **AVOID**

- Any part of the stepping foot leaving contact with the ground or your knee extending forward beyond your toe.
- An excessive drop in torso angle beyond or below 45 degrees.





### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

### **MODIFICATION**

**Less Difficult:** Place hands behind head with elbows pointed wide and shoulders down. Follow same action and movement path. Repeat on other side.





## BEST FOR

- adductor longus
- adductor magnus
- biceps femoris
- gluteus maximus
- rectus femoris
- sartorius
- vastus lateralis

## 45-DEGREE TOWEL SLIDE

1

**Starting Position:** With your hands placed behind your head, start with your feet close together, one foot centered on a small towel.



2

**Action:** Looking straight ahead, keep your head neutral and spine long. Slide

the foot with the towel directly out to the side at a 45-degree angle. As you begin the movement, your chest should move forward and your hips backward. Retract your hips on the stationary leg while keeping your spine neutral. This should allow the upper thigh to be parallel to the ground. Stop at the bottom of the movement when the towel-sliding leg is fully extended. Return to the starting position by pushing into the ground with the standing foot and sliding the foot with the towel underneath back toward the stationary front foot, moving the hips forward and spine upward to vertical.

**Movement Path:** The general motion of the hips and pelvis is lateral downward and backward at a 45-degree angle. Your spine flexes slightly forward and your arms extend, with weight focused on the nonmoving leg. The towel-sliding leg is moving with assistance from the towel. The towel foot bears little to no weight and is used primarily for balance. The stationary foot is the balance lever and prime mover.



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**STABILIZE BY**

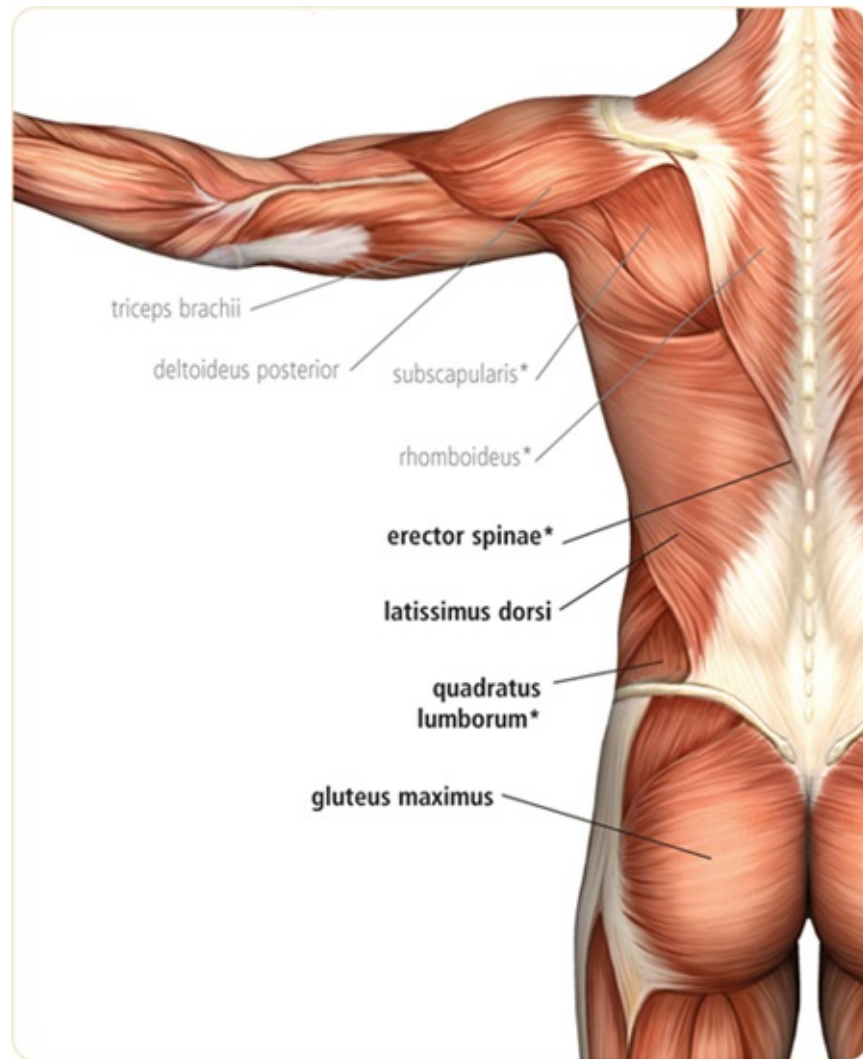
- Keeping the torso solid and chest up.
- Keeping the hips and shoulders facing forward.

**LOOK FOR**

- A simultaneous movement of your legs and hips.
- Your chest to remain up and your shoulders to remain down.
- Your spine to remain in a neutral position as it translates forward and backward.
- The sliding leg to move backward and outward at a 45-degree angle to standing foot.

**AVOID**

- Back extension—shoulders should be slightly in front of the hips.
- Raising the heel of the front foot (non-towel-sliding foot) off the ground.





### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

### BEST FOR

- biceps femoris
- vastus lateralis
- vastus medialis
- rectus femoris
- sartorius
- adductor magnus

- adductor longus
- erector spinae
- transversus abdominis
- trapezius
- rhomboideus
- gluteus medius
- gluteus minimus
- tibialis anterior
- erector spinae

## BACKWARD TOWEL SLIDE

1

**Starting Position:** Stand with your hands placed behind your head and your feet close together, one foot centered on a small towel, bearing little to no weight.



2



**Action:** Looking straight ahead, keep your head neutral and spine long. Now, slide the foot with the towel underneath behind and across your body, so that you are balancing with the toe of your sliding foot. The standing leg bends and the hip drops until the front knee ends up in a 90-degree position, allowing your front thigh to be parallel to the ground. Return to the starting position by pushing the front foot into the floor, extending both the knee and hip, simultaneously sliding the foot with the towel underneath back toward the stationary front foot, and rise to a standing position.

**Movement Path:** The general motion of the hips and spine is backward and downward in a curvilinear fashion, or arc. Your spine stays in a vertical position with weight focused on the nonmoving leg. The rear leg is moving with assistance from the towel.



### **STABILIZE BY**

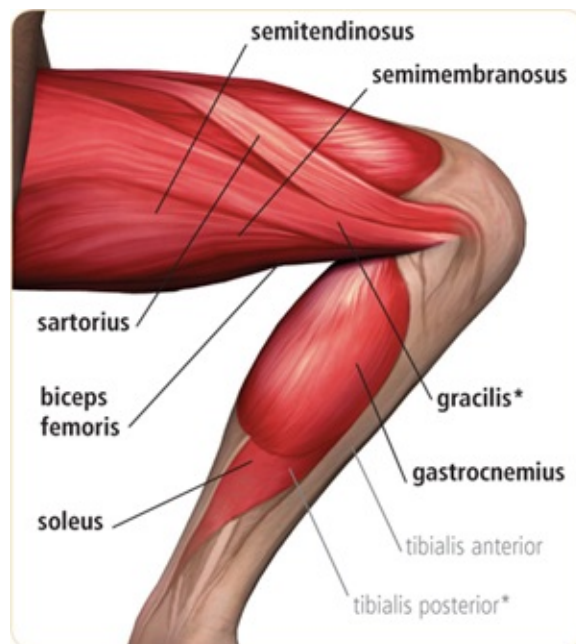
- Keeping the torso solid and chest up.
- Keeping the hips and shoulders facing forward.

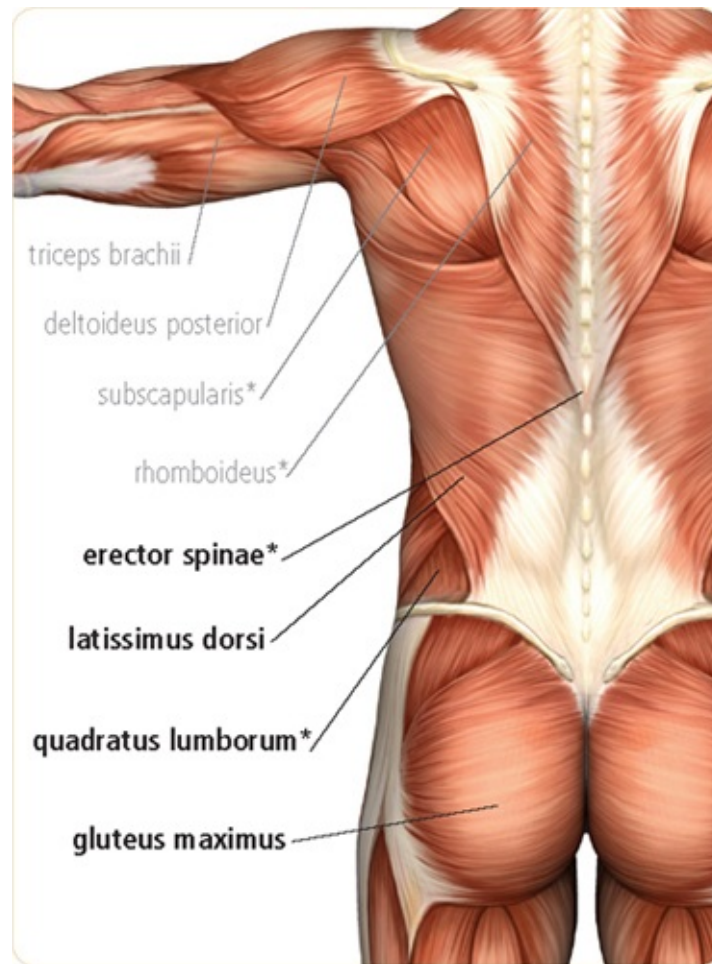
### **LOOK FOR**

- Body to be in center of balance.
- Neutral spine position.
- Towel sliding at a 45-degree angle across and behind the standing foot.

### **AVOID**

- Back extension—shoulders should be slightly in front of the hips.
- Raising the heel of the front foot (non-towel-sliding foot) off the ground.
- Back foot being dragged forward.
- Allowing the front knee to move forward and exceed the toe line.
- Allowing the front knee to migrate inward toward the midline.
- Keeping the back leg tense so that it remains straight.





#### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## **BEST FOR**

- **gluteus maximus**
- **vastus lateralis**
- **vastus medialis**
- **vastus intermedius**
- **rectus femoris**
- **biceps femoris**
- **adductor magnus**

- iliopsoas
- erector spinae
- soleus
- anterior tibialis

## CROSS-BODY TOWEL SLIDE

1

**Starting Position:** With your hands placed behind your head, start with your feet close together, one foot centered on a small towel.

**Action:** Looking straight ahead, keep your head neutral and spine long. Now, slide the foot with the towel directly out to the side at a 45-degree angle. As you begin the movement, your chest should move forward and your hips backward. Retract your hips on the stationary leg while keeping your spine neutral. This should allow the upper thigh to be parallel to the ground. Stop at the bottom of the movement when the towel-sliding leg is fully extended. Return to the starting position by pushing into the ground with the standing foot and sliding the foot with the towel underneath back toward the stationary front foot, moving the hips forward and spine upward to vertical.



2

**Movement Path:** The general motion of the hips and pelvis is lateral downward and backward at a 45-degree angle. Your spine flexes slightly forward and your arms extend, with weight focused on the nonmoving leg. The towel-sliding leg is moving with assistance from the towel. The towel foot bears little to no weight and is used primarily for balance. The stationary foot is the balance lever and prime mover.



### **STABILIZE BY**

- Keeping the torso solid and chest up.
- Keeping the hips and shoulders facing forward.

### **LOOK FOR**

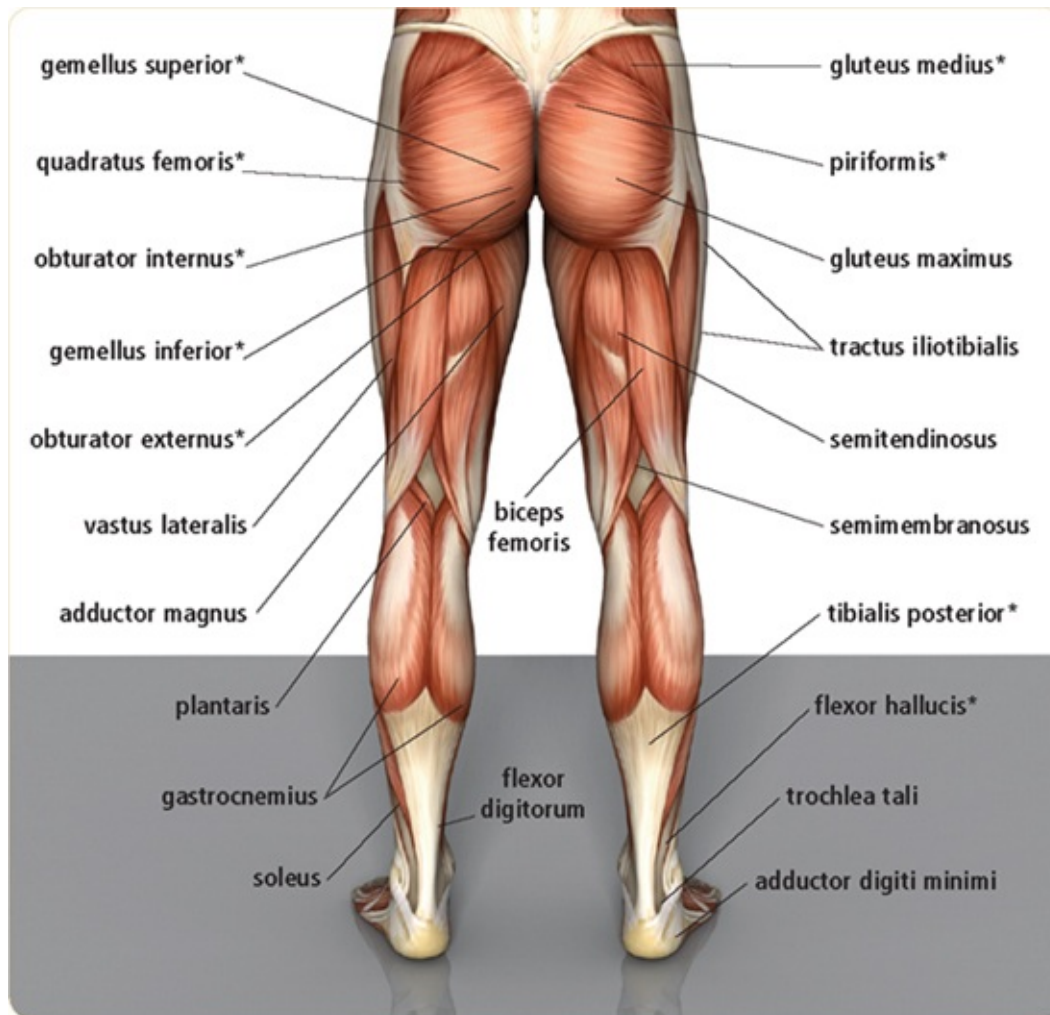
- Body to be in center of balance.
- Neutral spine position.
- Towel to slide at a 45-degree angle across and behind standing foot.
- Shoulders to be slightly in front of the hips during back extension.

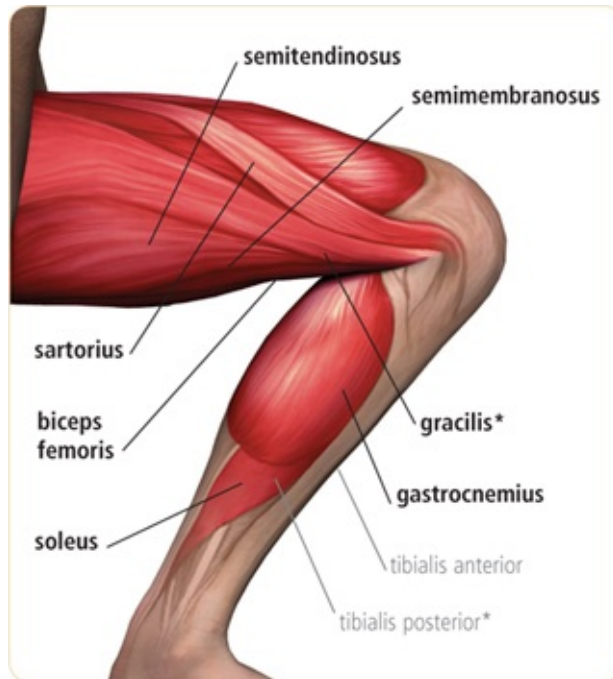
### **AVOID**

- Rotating the hips.
- Raising the heel of the front foot off the ground.
- Dragging the back foot forward.



- Allowing the front knee to move forward and exceed the toe line.
- Allowing the front knee to migrate inward toward the midline.
- Keeping the back leg tense so that it remains straight.





#### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- gluteus maximus
- vastus lateralis
- vastus medialis
- vastus intermedius
- rectus femoris
- biceps femoris
- adductor magnus
- iliopsoas
- erector spinae
- soleus
- anterior tibialis

## REVERSE BARBELL SLIDE

1

**Starting Position:** Hold a barbell directly above your head with hands wider than shoulder-width apart and your feet close together, one foot centered on a small towel, bearing little to no weight.

**Action:** Looking straight ahead, keep your head neutral and spine long. Slide the foot with the towel underneath directly behind you, so that you are balancing on the toe of your foot to create a 90-degree angle in your knee joint and a straight line from your spine through your bottom knee. The front knee should end up in a 90-degree position, allowing your front thigh to be parallel to the ground. Both the arms and bar remain directly above the head throughout the movement. Return to the starting position by pushing the front foot into the floor, extending both the knee and hip, simultaneously sliding the foot with the towel underneath back toward the stationary front foot as you rise to a standing position.



2

**Movement Path:** The general motion of the hips and spine is backward and downward in a curvilinear fashion, or arc. Your spine stays in a vertical position, with weight focused on the nonmoving leg. The rear leg is moving with assistance from the towel.



### **STABILIZE BY**

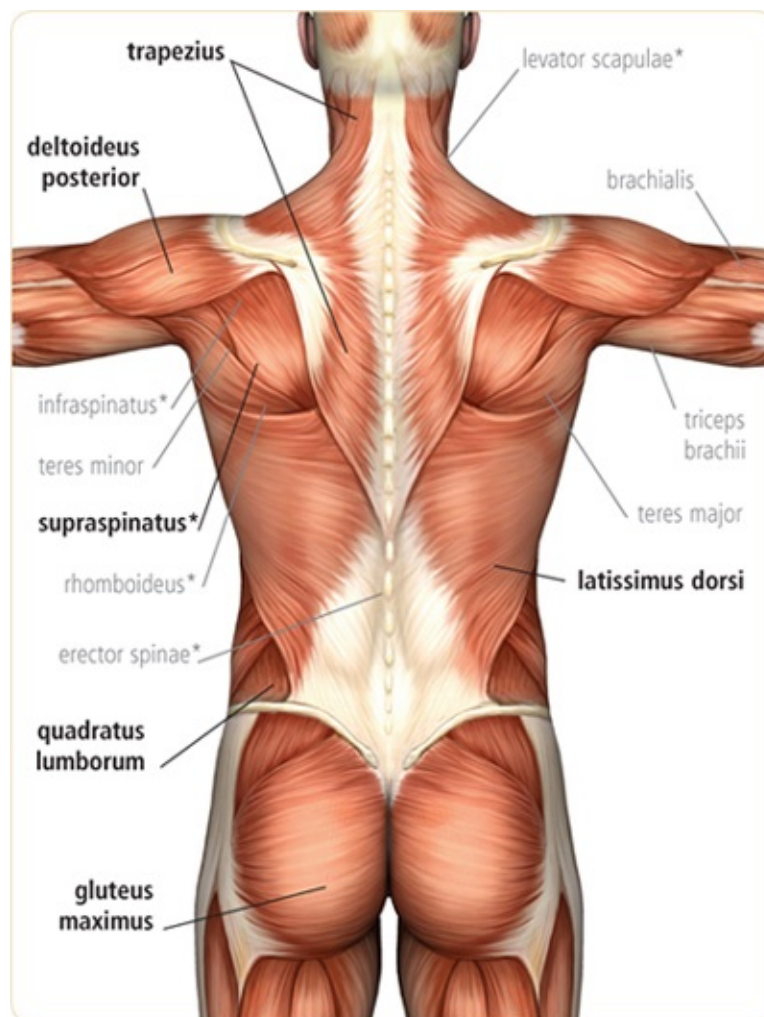
- Keeping the spine vertical and the rib cage pulled up and in.
- Keeping chest high and shoulders down.
- Extending your arms completely.

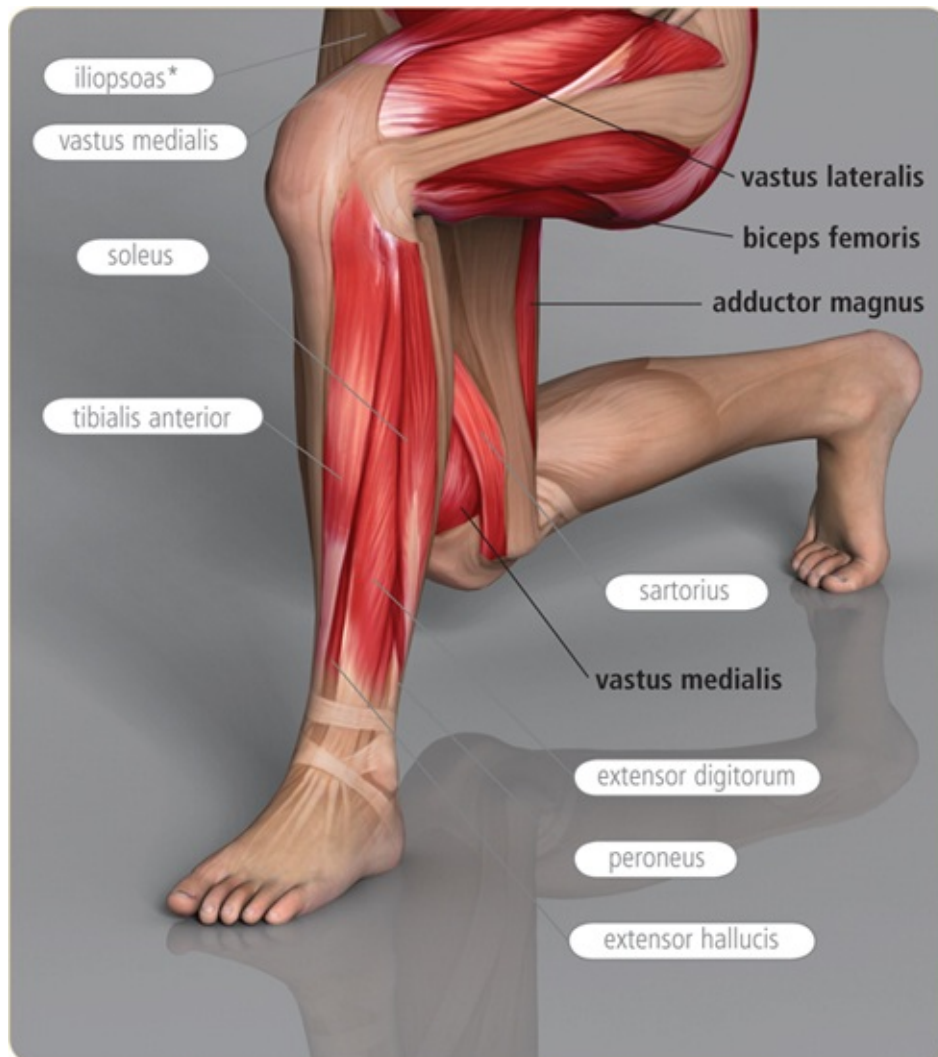
### **LOOK FOR**

- Bar to remain directly above head, arms extended.
- Body to be in center of balance.
- Neutral spine position.
- Towel to slide straight back with deceleration.

## AVOID

- Rotation of any kind.
- Back extension—shoulders should be directly above the hips.
- Raising the heel of the front foot (non-towel-sliding foot) off the ground.
- Back foot being dragged forward.
- Allowing the front knee to move forward and exceed the toe line.
- Allowing the front knee to migrate inward toward the midline.
- Keeping the back leg tense so that it remains straight.





### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## **BEST FOR**

- latissimus dorsi
- quadratus lumborum
- trapezius
- supraspinatus
- infraspinatus



- **teres major**
- **teres minor**
- **gluteus maximus**
- **vastus lateralis**
- **vastus medialis**
- **vastus intermedius**
- **rectus femoris**
- **biceps femoris**
- **adductor magnus**
- **iliopsoas**
- **erector spinae**
- **soleus**
- **anterior tibialis**

## REVERSE WITH OVERHEAD KETTLEBELL

1

**Starting Position:** Stand with your feet close together and your hands on your hips. With palms facing each other and arms extended at chest height, grasp the kettlebell.

**Action:** Keeping your head up, your spine in a neutral position, and your hands in front of you, take a step forward, bending your front knee to a 90-degree angle and dropping your front thigh until it is parallel to the ground. Your back knee drops straight down behind you, so that you are balancing on the toe of your foot, to create a 90-degree angle in your knee joint and a straight line from your spine through your bottom knee. During the stepping-out process, simultaneously move the ball across your body 45 degrees to the side of the forward leg, keeping arms extended and level.



2

**Movement Path:** A forward motion and a descending motion. Your spine stays in a vertical position and is translated forward and down by the step and the deceleration. Return to the starting position by pushing on your front foot and elevating with your back leg while bringing the ball back to the starting position. Repeat with the other leg.



### **STABILIZE BY**

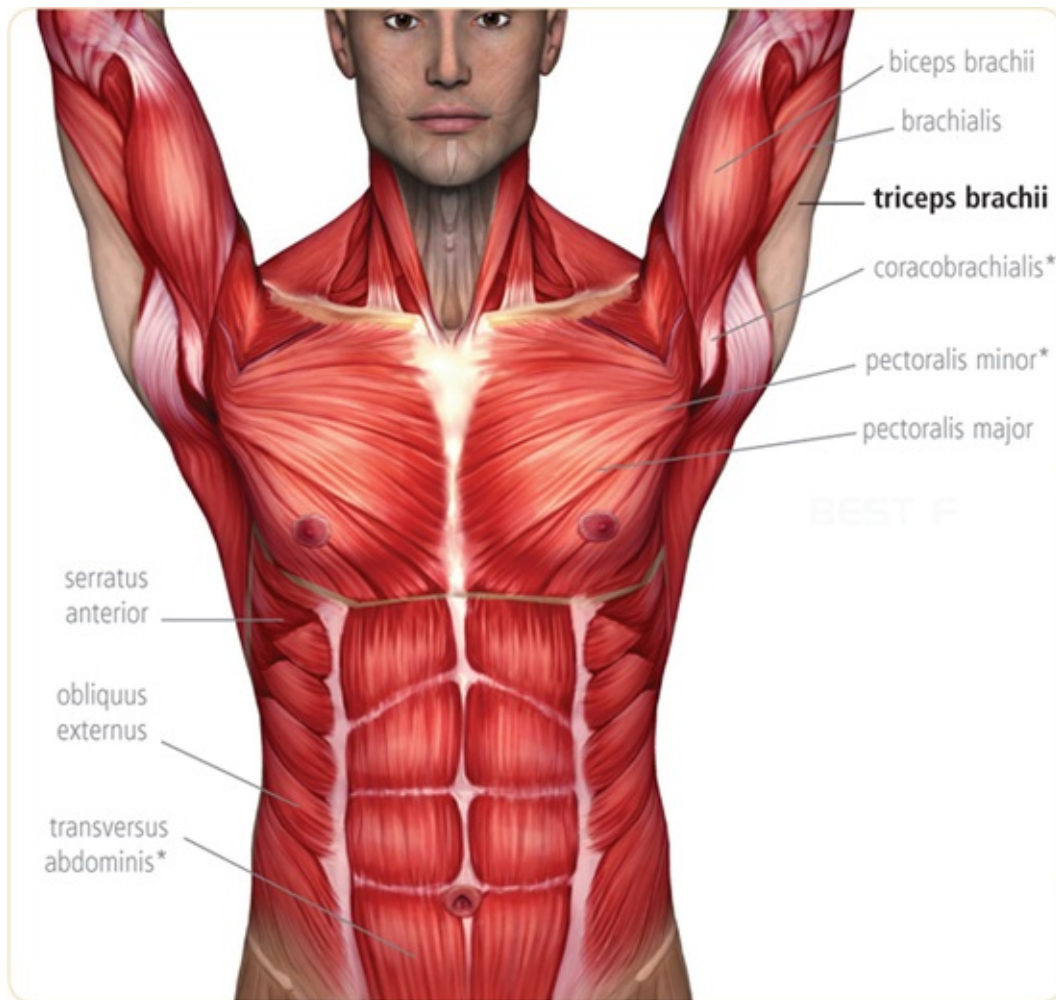
- Keeping your chest high, stomach up, and spine neutral.
- Evenly distributing your weight across your front foot, from front to back.
- Keeping your back foot on the toe line and your weight in the back of the stepping leg.

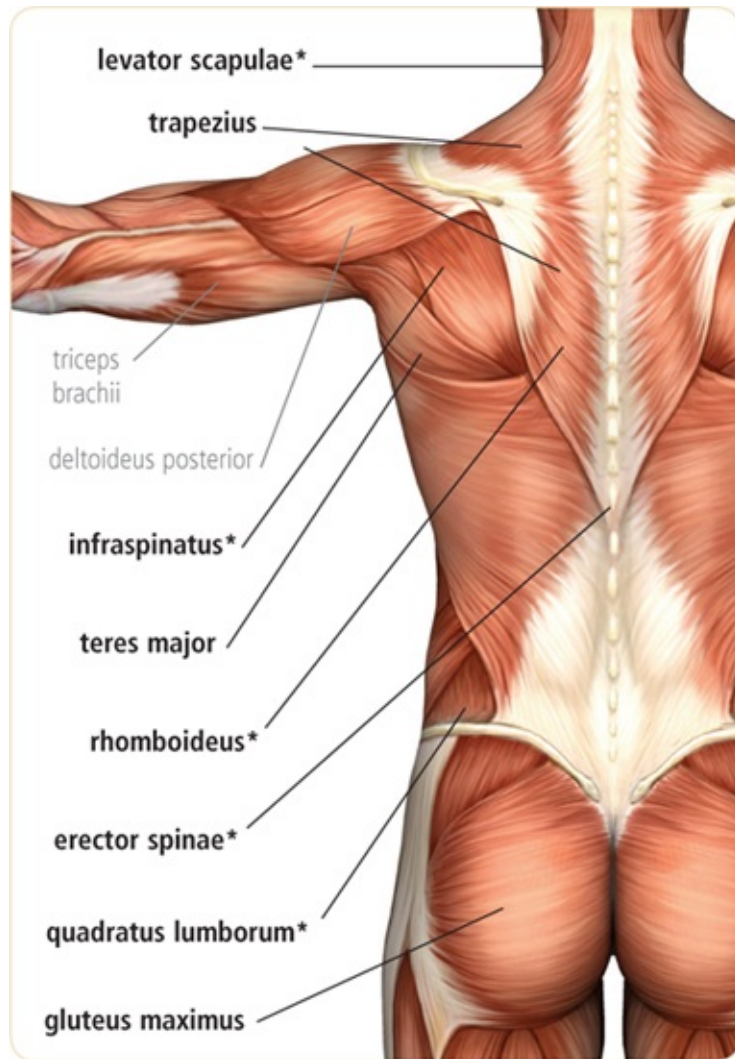
### **LOOK FOR**

- Body to be in center of balance.
- Neutral spine position.

### **AVOID**

- Back extension—shoulders should be slightly in front of the hips.
- Raising the heel of the front foot off the ground.
- Back foot being dragged forward.
- Allowing the front knee to move forward and exceed the toe line.
- Allowing the front knee to migrate inward toward the midline.
- Keeping the back leg tense so it remains straight.







### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

### **MODIFICATIONS**

**Less Difficult:** Fold hands behind head. Use same action and movement path.

**More Difficult:** Rest a barbell across your shoulders. Maintain the same activation pattern and movement sequence, keeping the bar's weight balanced on your torso. Keep your shoulders down, with your hands wider than shoulder-width apart, your torso vertical, and your chest and chin up.

### **BEST FOR**

- gluteus maximus

- **vastus lateralis**
- **vastus medialis**
- **vastus intermedius**
- **rectus femoris**
- **biceps femoris**
- **adductor magnus**



## UP TO BOX

1

**Starting Position:** Stand vertically with your feet directly below your hips and your hands either on your hips or clasped behind your head, elbows pointing outward.

**Action:** Step forward, placing one foot on a step in front of you, dropping the front thigh and hip so that both the raised knee and hip are close to a 90-degree angle. Make sure that your body is vertical, your chest is up, and your front knee is directly over your foot. Your raised knee should not exceed the toe line, and your foot should be flat on the surface of the step. The back knee and hip drop directly downward, the spine remains erect. Keeping your back leg bent, push through your top leg, extending your knee and hips simultaneously to drive your body upward and backward. Do not allow your back leg to push off the floor.



2

**Movement Path:** A forward and slightly downward movement. Your head should begin above the moving foot and end directly between both feet. Allow your arms to simply stabilize the weight, keeping shoulders back. Ascend in the same fashion.



### **STABILIZE BY**

- Keeping your upper back muscles and shoulders down and back.
- Not allowing your momentum to bring your torso forward.
- Keeping your hip, shoulder, and ankle in a line from the bottom weight.

### **LOOK FOR**

- A slight forward translation and directly upward movement of your spine.

### **AVOID**

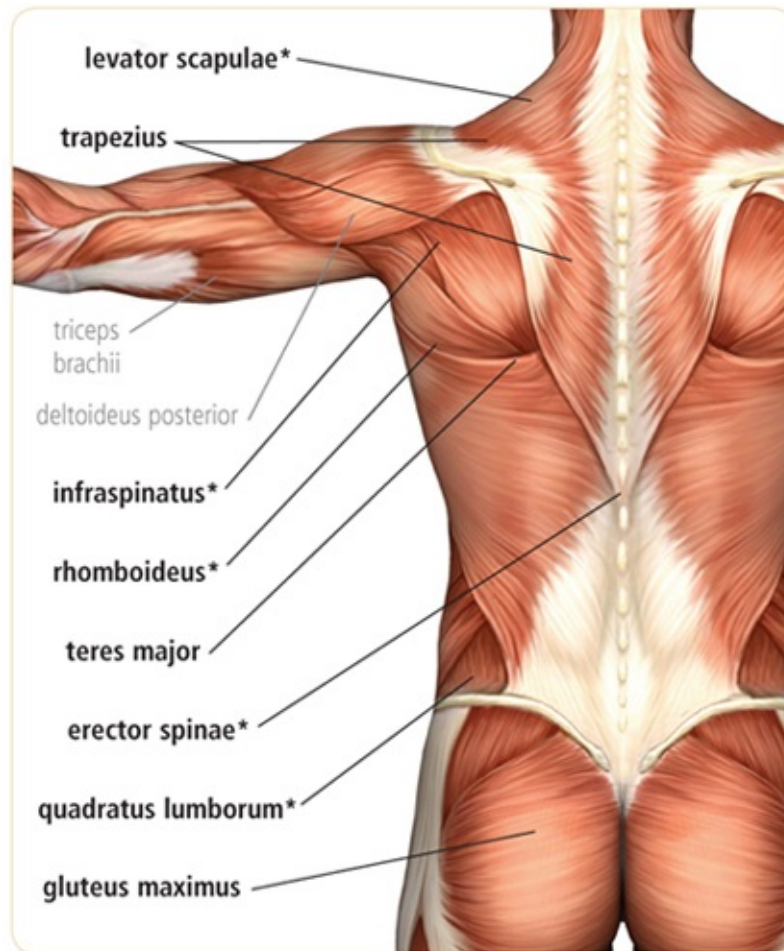
- Straightening your back knee.
- Allowing your front knee to slip forward beyond the toe line or any part of your front foot to lift off the step.
- Moving your knee either laterally or medially; keep it directly over the

stepping foot.

### MODIFICATION

**More Difficult:** Holding a barbell directly above your head, shoulders down, elbows extending, repeat the same action and movement path.







### ANNOTATION KEY

Black text indicates active muscles Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- rectus femoris
- sartorius
- biceps femoris
- semitendinosus
- semimembranosus

- soleus
- tibialis posterior
- tibialis anterior
- adductor magnus

## OFF BOX

1

**Starting Position:** Begin by standing in a vertical position on a block, feet together, hands clasped behind head, chest erect, and head high.



2

**Action:** Step directly forward off the block, bending your knee and allowing



your torso to ride forward. The torso remains erect as the front foot contacts the ground. Drop the torso and hips directly down by bending both the front and back knee until the front thigh is parallel to the ground and the back knee comes almost to the ground.



3

**Movement Path:** While descending directly down, allow your hips to translate forward and downward, while keeping your spine, chest, and head high.



### **STABILIZE BY**

- Keeping your spinal muscles active, your shoulders retracted and depressed, the opposite leg involved, and your opposite foot relaxed.

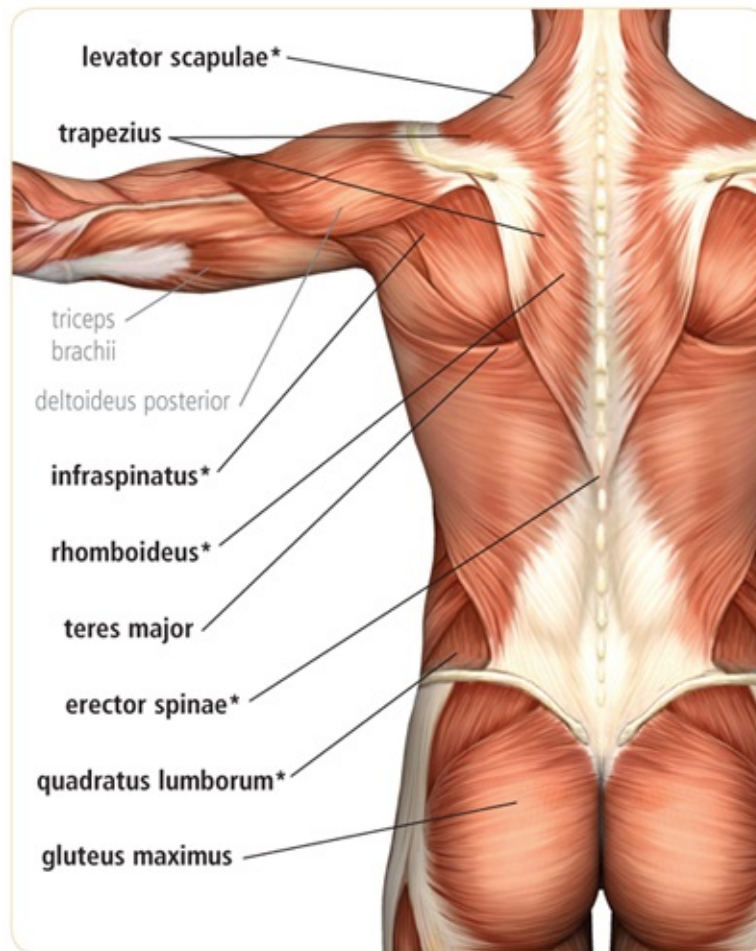
### **LOOK FOR**

- Your head to remain directly above your hip.
- Your knee and hips to move simultaneously.

### **AVOID**

- Extending your knee beyond your toe line.
- Any rotation in your hips or torso.
- Any deviation of the standing knee from above the weightbearing foot.





### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## **BEST FOR**

- **vastus lateralis**
- **vastus medialis**
- **vastus intermedius**
- **rectus femoris**
- **sartorius**
- **semitendinosus**
- **semimembranosus**

- gluteus maximus
- erector spinae
- quadratus lumborum
- deltoideus posterior
- transversus abdominis
- rhomboideus
- adductor magnus
- tensor fasciae latae
- gluteus medius



## PUSH-UP

---

The classic. The mighty mighty push-up has been around as an exercise for thousands of years—and for very good reason. It has the reputation of being a very simple exercise, and if done correctly, it can contribute to almost every part of the body in meaningful and beneficial ways.

The push-up can be used as a diagnostic tool during a fitness evaluation to measure not only chest and arm endurance but also shoulder stability, abdominal and lower-back strength, hip stability, and leg endurance.

Joints involved are the shoulder, elbow, and wrist. The primary muscles are the chest, shoulder, and triceps.

The primary benefits of this exercise are shoulder, back, and hip stability; upper-body strength and endurance; and abdominal endurance.

# BASIC

1

**Starting Position:** Lie flat on the ground, facedown. Place your hands slightly outside of your shoulders and your fingertips parallel to your collarbone. Make sure that your elbows are at 45-degree angles to your torso. Place both feet on your tiptoes.



2

**Action:** Raise your legs and hips off the ground. Your lower back should arch slightly. Extend your arms, pushing into the ground. To return, lower your body in a single plane by bending your arms.

**Movement Path:** The plane of your body rotates upward in an arc. Use your feet as a lever.





### **STABILIZE BY**

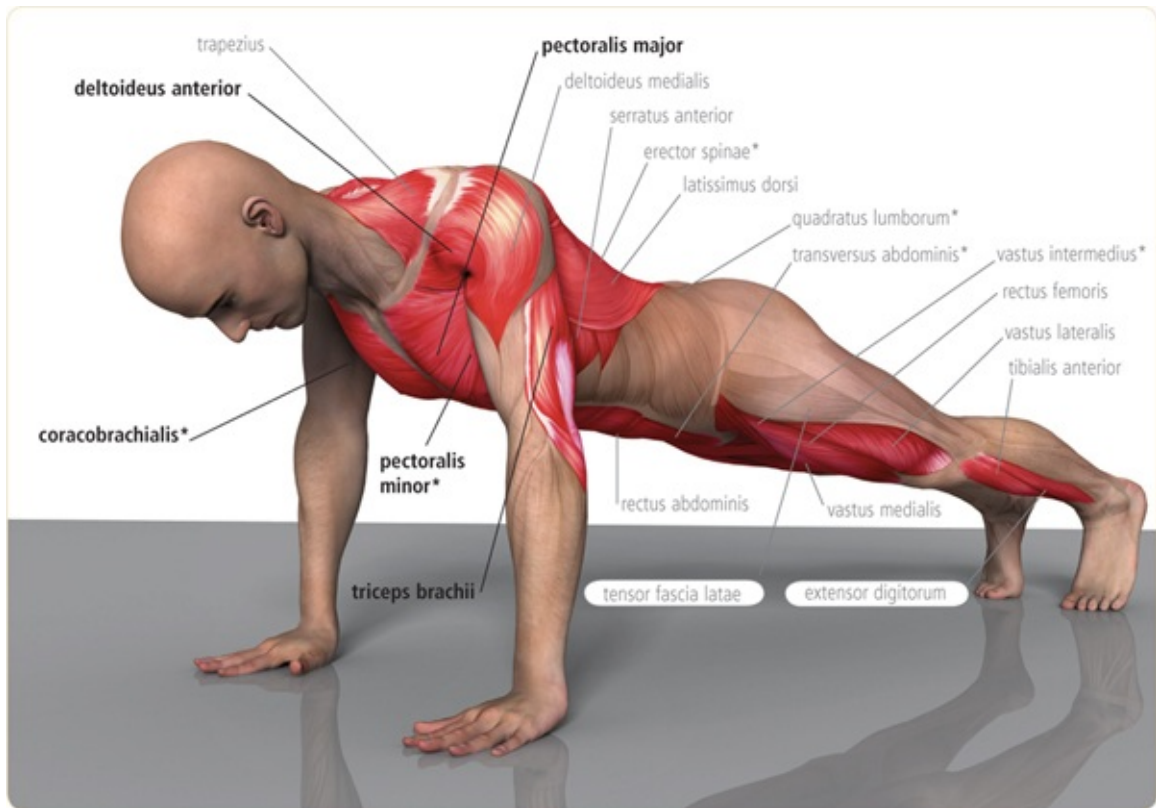
- Keeping your knees locked.
- Fixing your ankles in a stable position.
- Keeping your hips, abdominal muscles, and lower back rigid.

### **LOOK FOR**

- A single plane of movement, i.e., a straight line from head to ankle.

### **AVOID**

- Segmental elevation, i.e., your shoulders rising before your hips, or vice versa.
- Elevating your shoulders toward your ears.
- Moving your head forward.



### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles

\* indicates deep muscles

### MODIFICATIONS



**Less Difficult:** Shorten the lever by bending your knees to the floor. Maintain the same action and movement path.



**More Difficult:** Raise the angle of elevation to 45 degrees by placing your hands on a physio ball.



**More Difficult:** Place your feet on a Swiss ball.



**More Difficult:** Raise one leg and maintain the same activation pattern and movement sequence.

## BEST FOR

- deltoideus anterior
- coracobrachialis
- pectoralis major
- pectoralis minor
- triceps brachii

## PUSH-UP & ROLL-OUT

1

**Starting Position:** Place a barbell with weights securely fastened on each end on the ground so that the bar is horizontal to your torso. Grasp the bar with elbows extended, arms straight, and bar beneath chest. With body rigid, bend knees to the floor.



2

**Action:** Keeping your elbows at 45-degree angles to your torso, use your knees as a fulcrum, and let your body drop until your chest touches the bar. Extend elbows, and push up and away until arms are fully extended. Pause. Then, putting pressure on the heel of the hand, push on the bar, rolling it forward with arms remaining extended. Pause briefly, and then pull back on the bar, returning it to the starting position.



3

**Movement Path:** First, lower your body in a single plane by bending your arms. Your hips and shoulders should move simultaneously upward. Use your feet as a lever. Then, elevate your arms and allow your torso to drop.



### STABILIZE BY

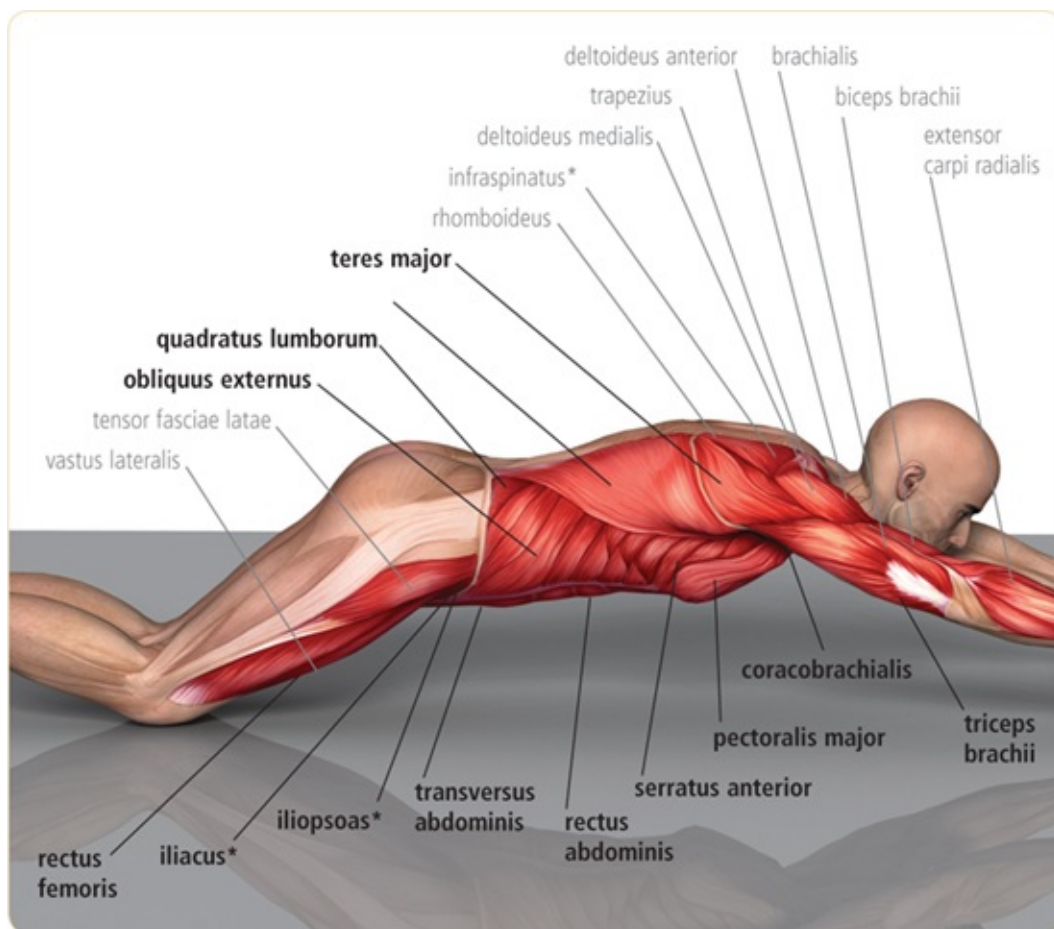
- Keeping your knees locked.
- Fixing your ankles in a stable position.
- Keeping your hips, abdominal muscles, and lower back rigid.

### LOOK FOR

- Spine to remain motionless throughout both movements of the arms and shoulders.
- Spine to remain solid.
- Shoulders to remain down.
- Bar to not move during push-up phase.

## **AVOID**

- A segmental elevation, i.e., your shoulders rising before your hips, or vice versa.
- Elevating your shoulders toward your ears.
- Moving your head forward.
- Rolling the bar forward or backward unevenly.



## **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## OTHER MODIFICATIONS

**More Difficult:** Place your feet on a Swiss ball. Maintain same action and movement path.

**More Difficult:** Raise one leg and maintain same action and movement path.

## MODIFICATIONS

**More Difficult:** Extend your legs so that your body is rigid. Maintain same action and movement path.



## BEST FOR

- latissimus dorsi
- rectus abdominis
- serratus anterior
- pectoralis major
- coracobrachialis
- deltoideus anterior
- teres major

- **rhomboideus**
- **triceps brachii**
- **iliopsoas**
- **vastus lateralis**
- **rectus femoris**
- **transversus abdominis**
- **trapezius**
- **quadratus lumborum**



## ON PHYSIO BALL & BLOCKS

1

**Starting Position:** With your hands wider than shoulder-width apart and your fingertips parallel to collarbone, place hands on blocks (or bench) and place feet on physio ball with ankles fixed at 90-degree angles, toes down, so that body is horizontal.



2

**Action:** Lower your entire body by allowing the elbows to bend until your torso has dropped into a position where your chest is at the level of your hands. Return by extending the elbows and pushing into the blocks, elevating entire body simultaneously.



3

**Movement Path:** The plane of your body rotates upward in an arc. Use your feet as a lever.



### STABILIZE BY

- Keeping your knees locked.
- Fixing your ankles in a stable position.

- Keeping your hips, abdominal muscles, and lower back rigid.

### LOOK FOR

- A single plane of movement, i.e., a straight line from head to ankle.

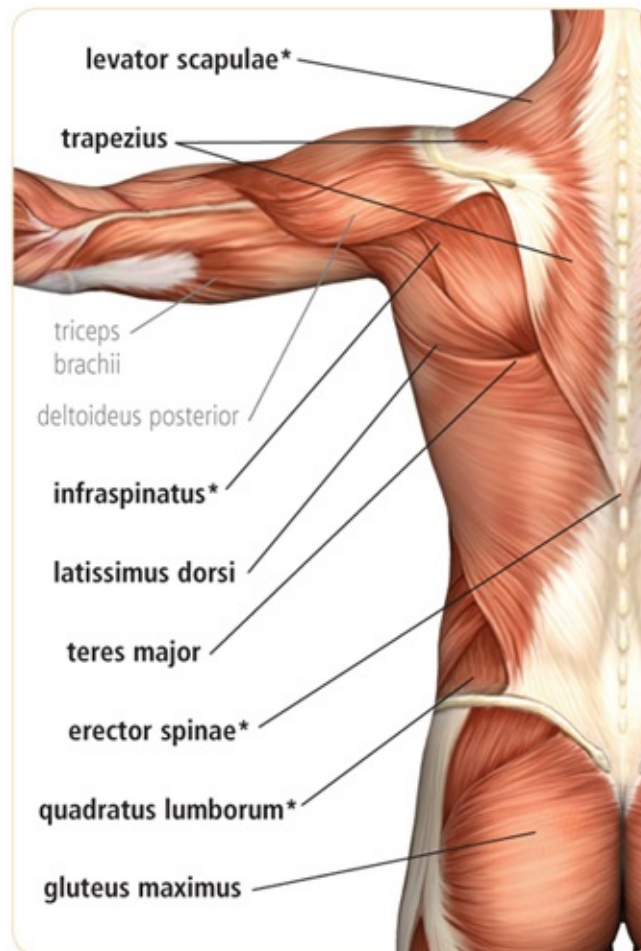
### AVOID

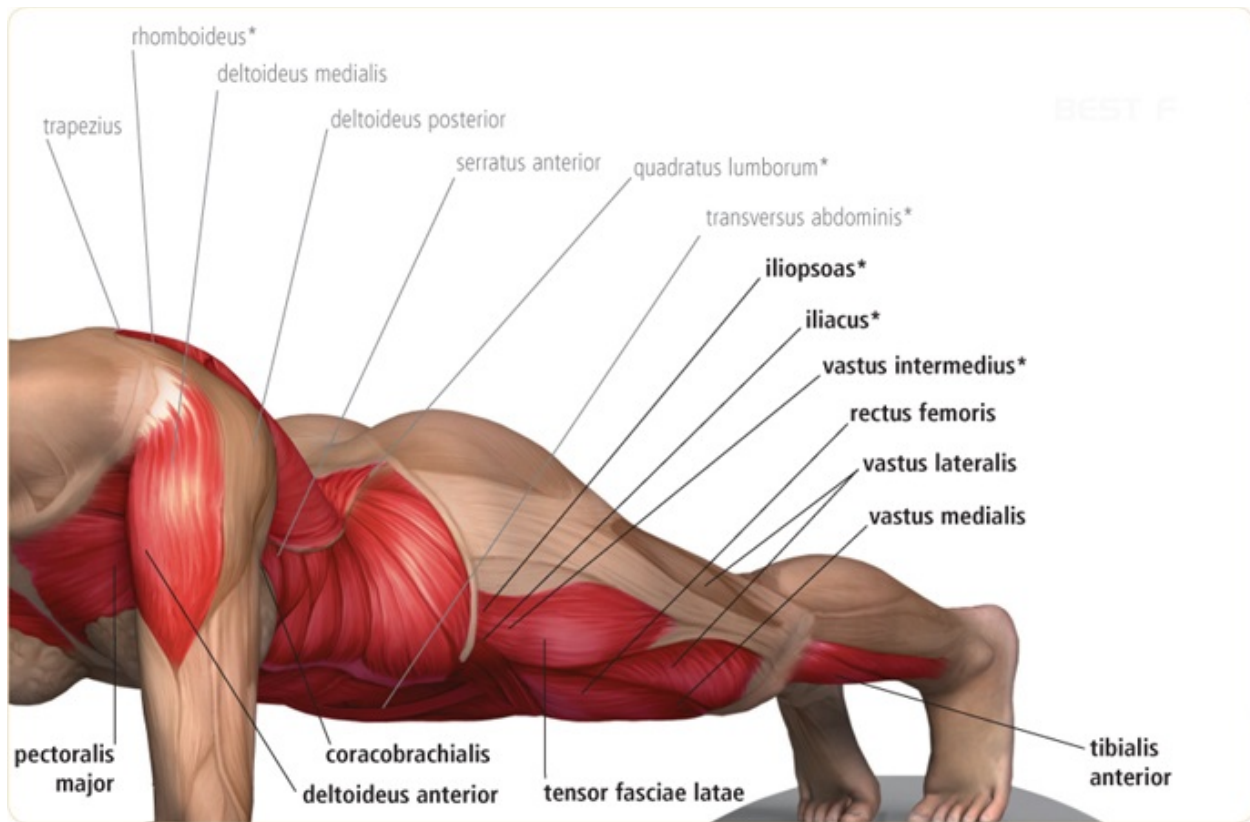
- A segmental elevation, i.e., your shoulders rising before your hips, or vice versa.
- Elevating your shoulders toward your ears.
- Moving your head forward.
- Allowing the ankles to change position.
- Allowing the ball or body to migrate laterally.

### MODIFICATION

**More Difficult:** Keeping toes of one foot on physio ball, elevate other leg. Follow same action and movement path.







### ANNOTATION KEY

Black text indicates active muscles Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- pectoralis major
- coracobrachialis
- deltoideus anterior
- triceps brachii
- iliopsoas
- vastus lateralis
- vastus medialis
- vastus intermedius
- rectus femoris
- tibialis anterior

- transversus abdominis
- serratus anterior
- erector spinae
- trapezius
- latissimus dorsi
- quadratus lumborum

## ON DUMBBELLS WITH ROTATION

1

**Starting Position:** Lie flat on the floor with your hands slightly wider than shoulder width, grasping the dumbbells so that the dumbbell handles are parallel to your spine. Point your elbows directly at the ceiling. Your feet should be slightly wider than shoulder width and your spine should be neutral.



2

**Action:** Push up toward the ceiling; once your arms are fully extended, rotate your hips and feet, lifting one arm in an arc toward the ceiling so that your arms are aligned in a straight line and your feet are split apart, with your weight on the edges of your shoes. Your torso, hips, and legs are rigid.



3

**Movement Path:** Your entire body moves up and away from the floor, and then rotates around your spine 180 degrees.





### **STABILIZE BY**

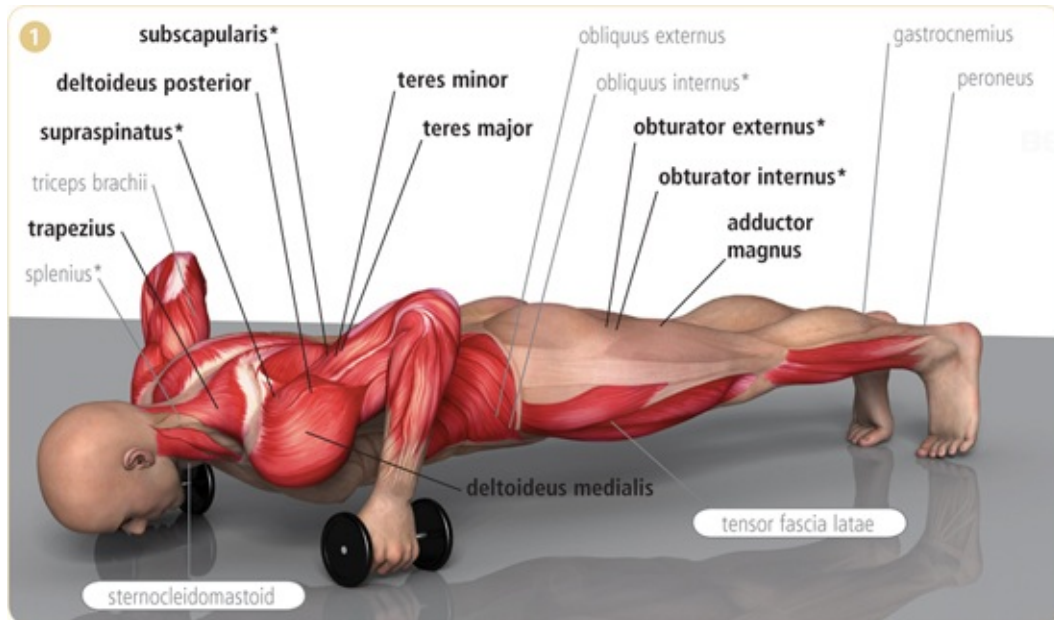
- Pulling your abdomen up and in.
- Keeping your shoulder blades down and flat.
- Keeping your knees straight and your legs contracted.
- Maintaining a neutral spinal position throughout the movement.

### **LOOK FOR**

- Your shoulders to remain depressed.
- Your neck to remain long.
- Your hips to remain elevated.
- Your shoulders, hips, and feet to remain in the same plane from the floor.

## AVOID

- Bending your knees or dropping your hips.
- Excessive rotation in shoulder and hip.





### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- adductor longus
- adductor magnus
- deltoideus anterior
- coracobrachialis
- gluteus medius
- gracilis
- obturator externus
- obturator internus

- **pectoralis major**
- **piriformis**
- **deltoideus posterior**
- **quadratus lumborum**
- **sartorius**
- **subscapularis**
- **supraspinatus**
- **tensor fasciae latae**
- **teres major**
- **teres minor**
- **vastus lateralis**

# TOWEL FLY

1

**Starting Position:** With your arms fully extended, start from the top of the push-up position, with your hands wider than shoulder width and placed on a towel so that the towel is taut between your hands and directly under your chest.

**Action:** Move your hands together while keeping your torso rigid and your arms extended. Return by spreading your hands to the starting position.



2

**Movement Path:** As your hands slide together, your torso (spine), hips, and legs elevate, using your toes as a lever.

Your hand movements should be smooth and simultaneous.



### **STABILIZE BY**

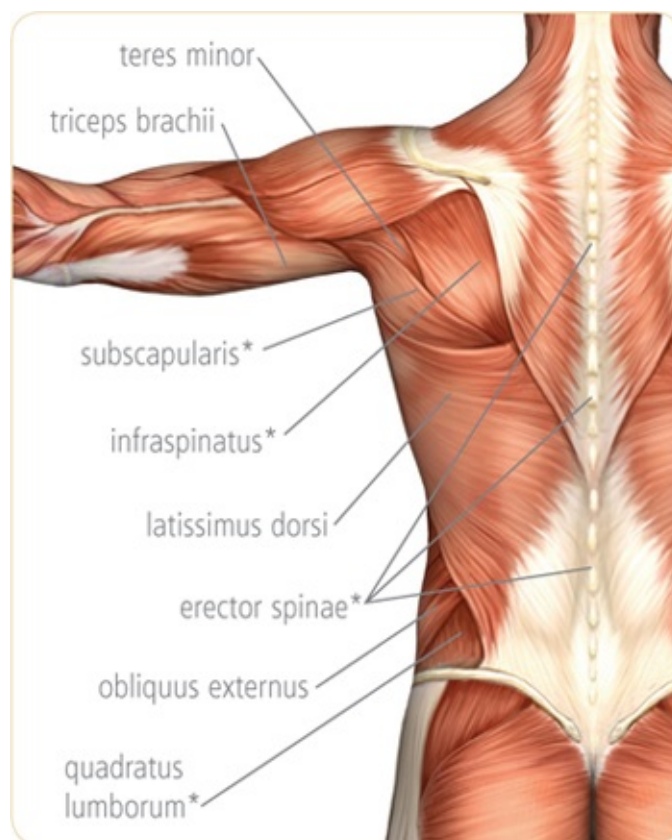
- Keeping your hips up and your knees and ankles locked.
- Keeping your shoulders retracted and depressed throughout the movement.

### **LOOK FOR**

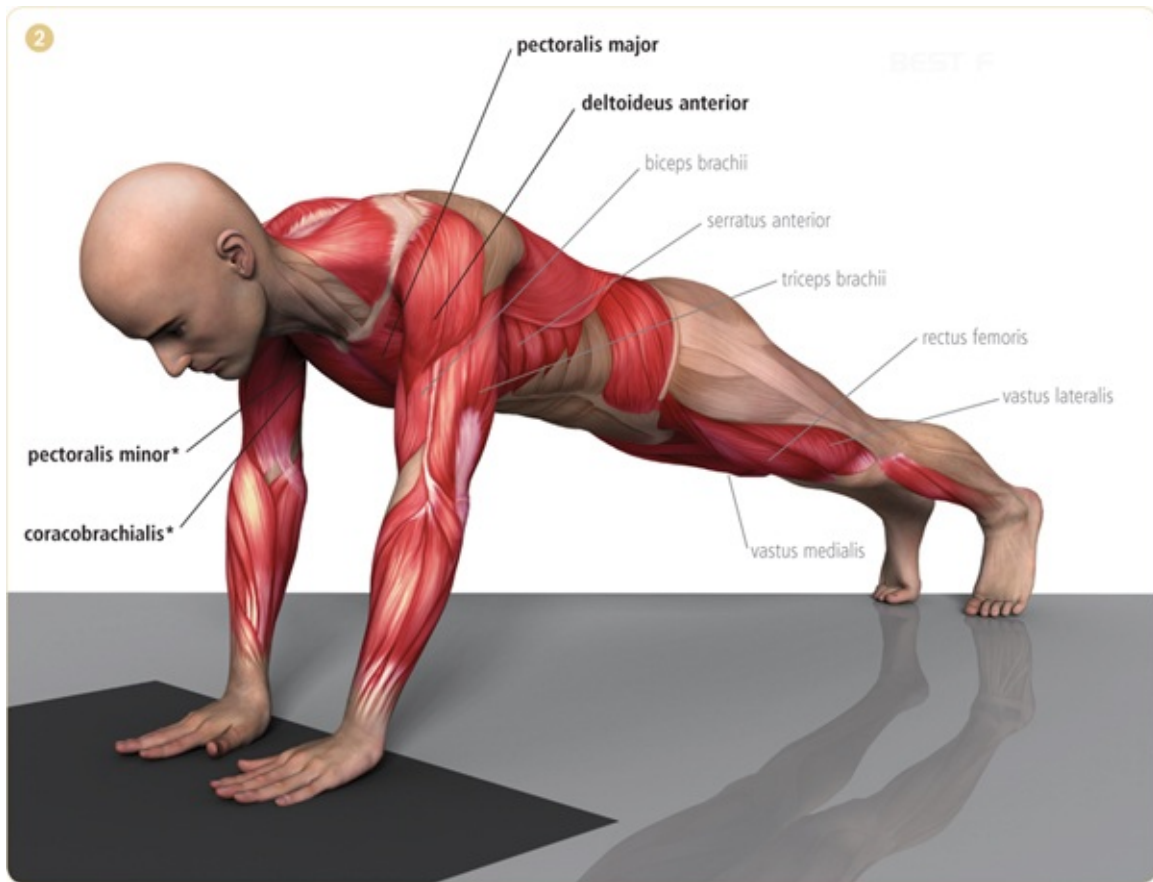
- Your arms to remain directly below your chest and perpendicular to your torso.

### **AVOID**

- Dropping your head forward or bending or extending your elbows.
- Any change in your spinal position.
- Elevating or widening your shoulder blades.







### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles

\* indicates deep muscles

## BEST FOR

- deltoideus anterior
- coracobrachialis
- pectoralis major
- pectoralis minor



## PIKE & PRESS

1

**Starting Position:** Place hands on blocks (or a bench), and place feet with ankles fixed at 90-degree angles on a physio ball, toes down, so that your body is horizontal. Your hands should be wider than shoulder width, and your fingertips parallel to your collarbone. Place your feet on the ball with the top of your feet (shoelaces) contacting the ball, your toes pointed.



2

**Action:** Lower your entire body by allowing the elbows to bend until your torso has dropped into a position where the chest is at the level of your hands. Return by extending the elbows and pushing into the blocks, elevating entire body simultaneously.

From top position, pull ball forward by flexing your feet and drawing the toes and hips upward so that the torso is bent at the hips. Toes are on top of the ball and both feet are at 90-degree angles. Your upper body and head are facing downward. Keeping your torso in that position, bend your elbows and drop your spine (headfirst) between hands. Return by pushing your hands into

blocks until your elbows are fully extended. Then, drop your hips and extend your toes until your body returns to horizontal.



3

**Movement Path:** The plane of your body rotates upward in an arc. Use your feet as a lever.



### **STABILIZE BY**

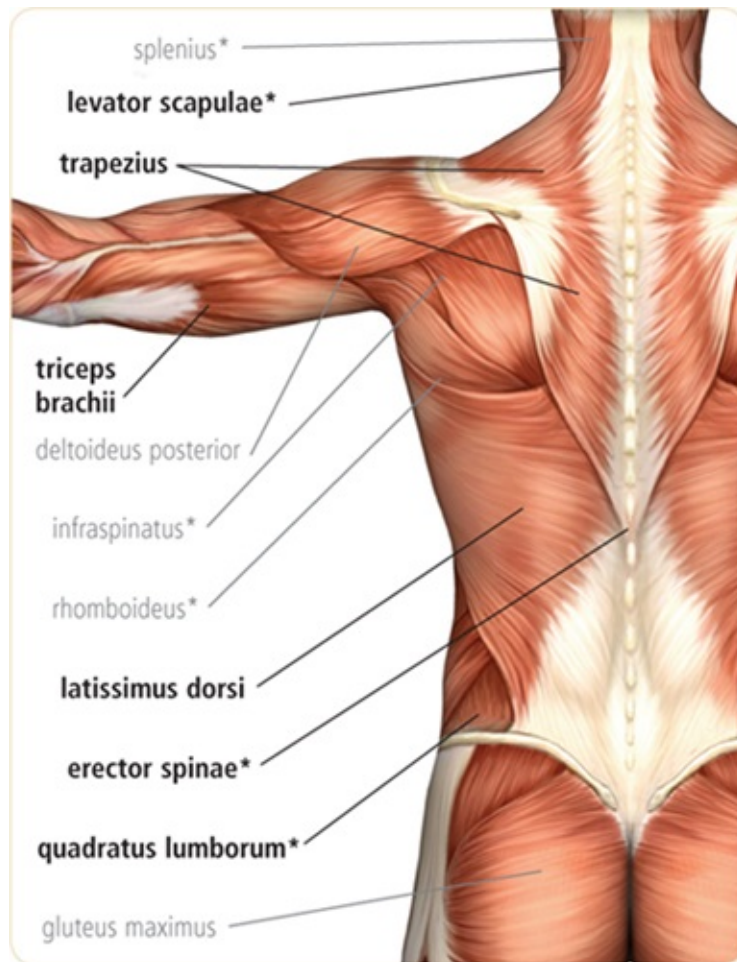
- Keeping your knees locked.
- Fixing your ankles in a stable position.
- Keeping your hips, abdominal muscles, and lower back rigid.

### **LOOK FOR**

- A single plane of movement, i.e., a straight line from head to ankle.

### **AVOID**

- A segmental elevation, i.e., your shoulders rising before your hips, or vice versa.
- Elevating your shoulders toward your ears.
- Moving your head forward.
- Allowing the ankles to change position.
- Allowing the ball or body to migrate laterally.





### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- **pectoralis major**
- **pectoralis minor**
- **coracobrachialis**
- **deltoideus anterior**
- **triceps brachii**
- **iliopsoas**
- **vastus lateralis**
- **vastus intermedius**

- **rectus femoris**
- **tibialis anterior**
- **transversus abdominis**
- **serratus anterior**
- **erector spinae**
- **trapezius**
- **latissimus dorsi**
- **quadratus lumborum**

## LOWER-BODY ROTATION

1

**Starting Position:** With hand position same as in a push-up, rotate the lower body with either feet split and bottom foot forward, or one foot on top of the other.



2

**Action:** Raise your legs and hips off the ground. Your lower back should arch slightly. Extend your arms, pushing into the ground. To return, lower your body in a single plane by bending your arms. Repeat on opposite side.

**Movement Path:** The plane of your body rotates upward in an arc. Use your feet as a lever.



### **STABILIZE BY**

- Keeping your knees locked.
- Fixing your ankles in a stable position.
- Keeping your hips, abdominal muscles, and lower back rigid.

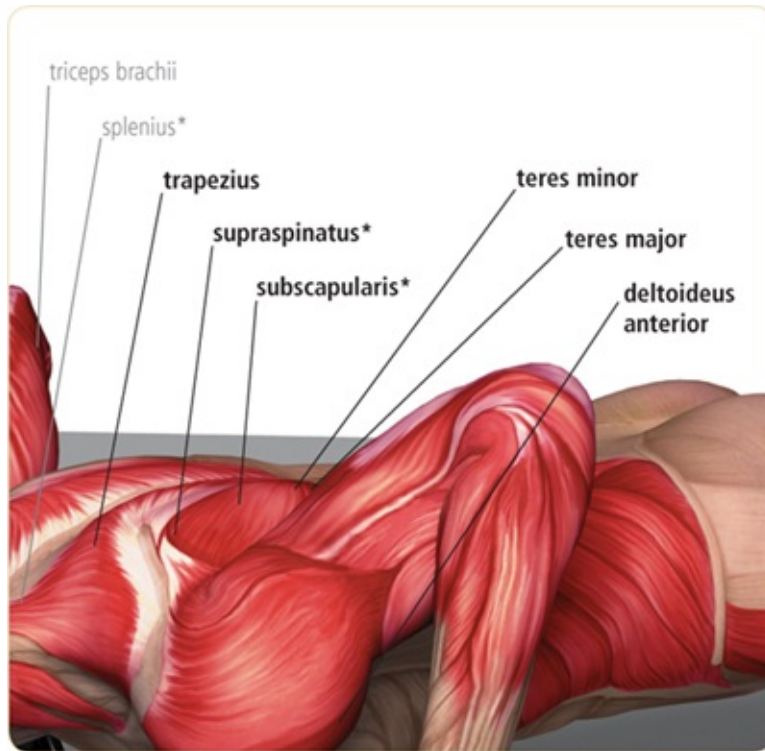
### **LOOK FOR**

- Fingertips to remain parallel.
- Hips to remain in position throughout movement.
- Feet to remain rigid and contact the ground only with the edges.

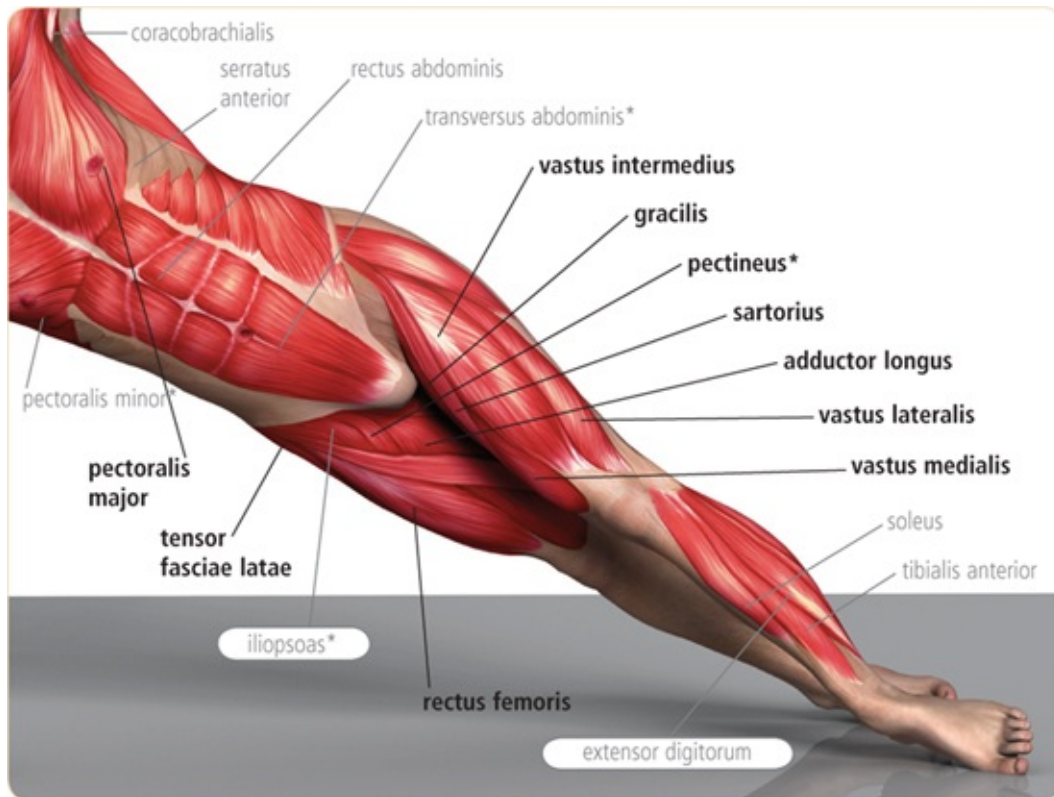
### **AVOID**

- Elevating shoulders toward the ears.
- Allowing ankles to drop and contact the ground.









### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- pectoralis major
- pectoralis minor
- coracobrachialis
- deltoideus anterior
- triceps brachii
- iliopsoas
- vastus lateralis
- vastus medialis
- vastus intermedius
- rectus femoris

- **tibialis anterior**
- **transversus abdominis**
- **serratus anterior**
- **erector spinae**
- **trapezius**
- **latissimus dorsi**
- **quadratus lumborum**

# CLAP

1

**Starting Position:** Lie flat on the ground, facedown. Place your hands slightly outside of your shoulders and your fingertips parallel to your collarbone. Make sure that your elbows are at 45-degree angles to your torso. Place both feet on tiptoes.



2



3

**Action:** Keeping your body rigid, forcefully and quickly push your hands into the ground so that enough momentum is generated for the hands to come off the ground. Just as your body reaches its highest point, remove your hands and clap them directly underneath your chest. Immediately return them to their original position, and allow your body to return toward the start position, decelerating as it descends to a position just above the floor. Quickly repeat.



4

**Movement Path:** The plane of your body rotates upward in an arc. Use your feet as a lever.



### **STABILIZE BY**

- Keeping your knees locked.
- Fixing your ankles in a stable position.
- Keeping your hips, abdominal muscles, and lower back rigid.

### **LOOK FOR**

- Body to remain rigid.
- Hands to return to original position.
- Continuous movement.

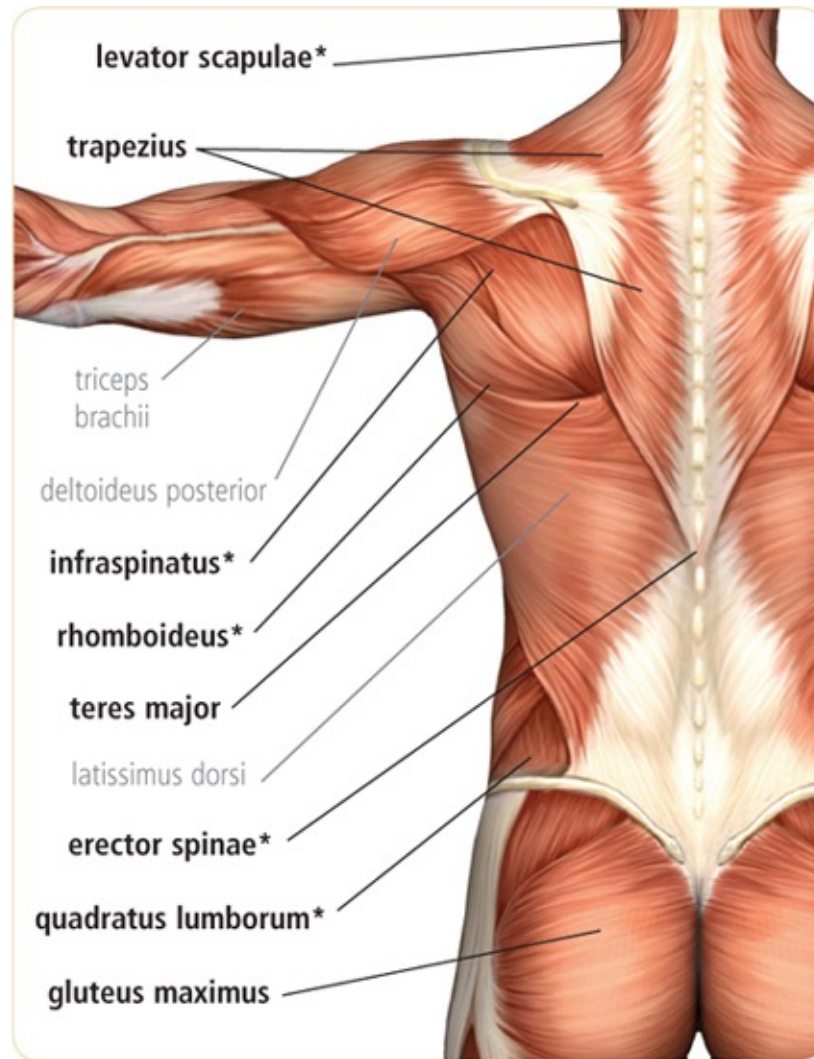
### **AVOID**

- Stopping at the bottom of the movement.



- Allowing hand position to vary substantially.





#### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## **BEST FOR**

- **pectoralis major**
- **pectoralis minor**
- **coracobrachialis**
- **deltoideus anterior**
- **triceps brachii**

- iliopsoas
- vastus lateralis
- vastus medialis
- vastus intermedius
- rectus femoris
- tibialis anterior
- transversus abdominis
- serratus anterior
- erector spinae
- trapezius
- latissimus dorsi
- quadratus lumborum

## ON KETTLEBELLS

1

**Starting Position:** Grasp handles of kettlebells set on ground at slightly wider than shoulder width and parallel to your collarbone. Make sure that your elbows are at 45-degree angles to your torso. Place both feet on tiptoes.

**Action:** Raise your legs and hips off the ground. Your lower back should arch slightly. Extend your arms, pushing into the ground. To return, lower your body in a single plane by bending your arms.



2

**Movement Path:** The plane of your body rotates upward in an arc. Use your feet as a lever.



### STABILIZE BY

- Keeping your knees locked.
- Fixing your ankles in a stable position.
- Keeping your hips, abdominal muscles, and lower back rigid.

### LOOK FOR

- A single plane of movement, i.e., a straight line from head to ankle.

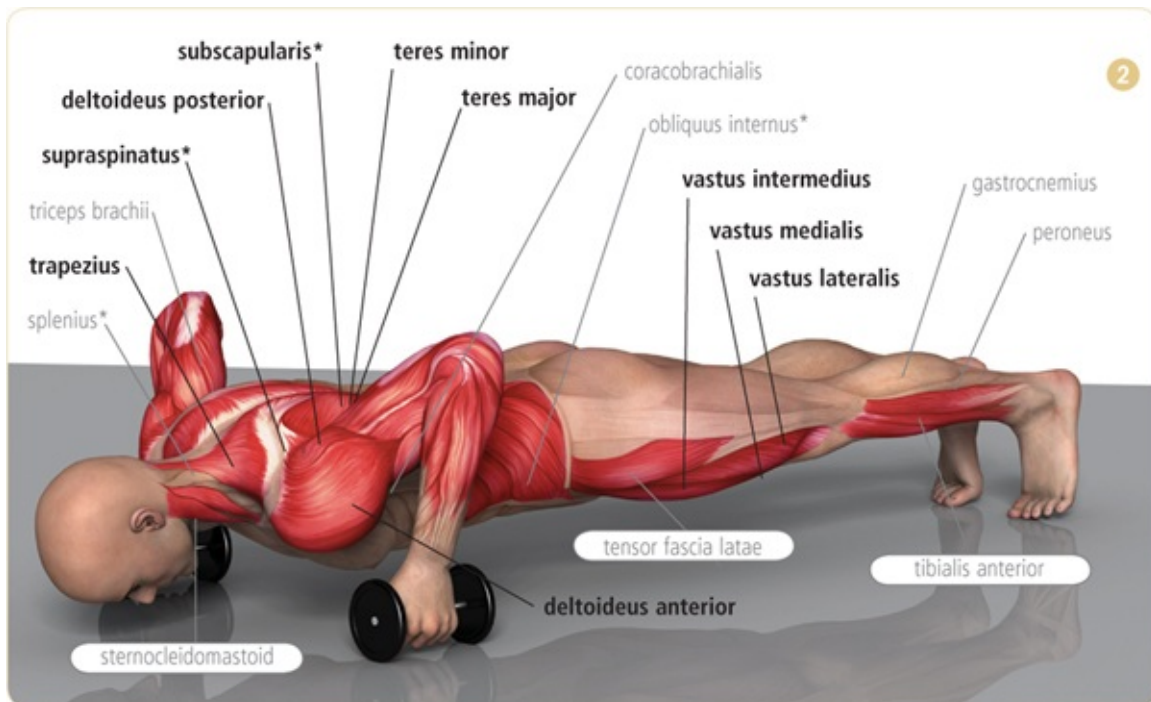
### AVOID

- A segmental elevation, i.e., your shoulders rising before your hips, or vice versa.
- Elevating your shoulders toward your ears.
- Moving your head forward.

## MODIFICATION

**More Difficult:** Place one hand on a medicine ball, the other on the floor. Follow same action and movement path.





### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- pectoralis major
- pectoralis minor
- coracobrachialis
- deltoideus anterior
- triceps brachii
- iliopsoas
- vastus lateralis
- vastus medialis
- vastus intermedius
- rectus femoris
- tibialis anterior
- transversus abdominis
- serratus anterior
- erector spinae
- trapezius
- latissimus dorsi
- quadratus lumborum



# HAND WALKOVER

1

**Starting Position:** Begin with one hand on floor and one elevated on a box.



2

**Action:** Perform a pushup with hands narrow. Once you've returned to starting position, place both hands on block. Move the other hand off the box slightly farther than shoulder width. Keeping feet in position, repeat push-up. From starting position, return bottom hand to box, and repeat.



3



4



**Movement Path:** The spine moves in a horizontal plane in an arc with the feet as a fulcrum, torso descending directly toward the floor and returning.

### **STABILIZE BY**

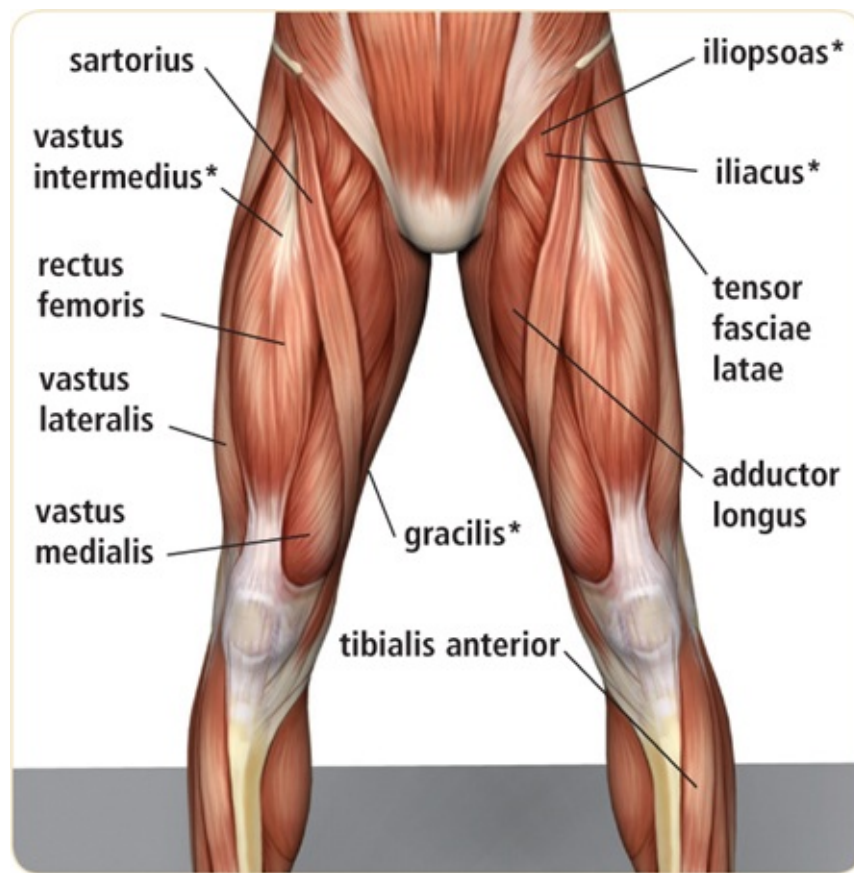
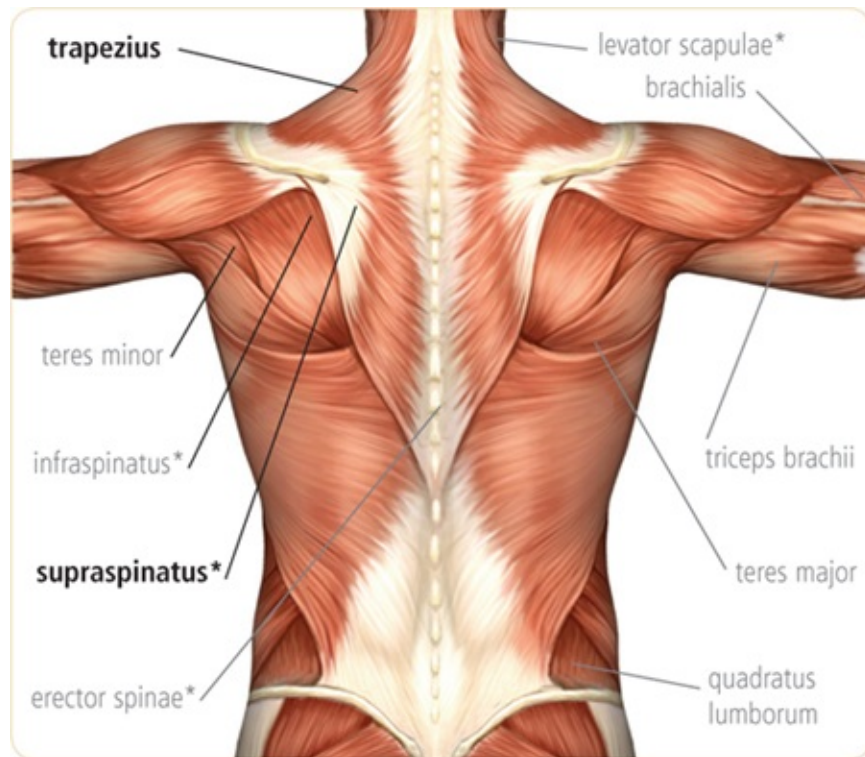
- Keeping torso rigid.
- Keeping legs straight and feet firm but relaxed.

### **LOOK FOR**

- Shoulders to remain horizontal.
- Rib cage and chest to remain up.
- Elbow of elevated hand to be slightly bent, while other is completely straight at top position.

### **AVOID**

- Dropping one shoulder.
- Any sagging or extending of the hips.
- Bending knees.





### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- pectoralis major
- pectoralis minor
- coracobrachialis
- deltoideus anterior
- triceps brachii

- iliopsoas
- vastus lateralis
- vastus medialis
- vastus intermedius
- rectus femoris
- tibialis anterior
- transversus abdominis
- serratus anterior
- erector spinae
- trapezius
- latissimus dorsi
- quadratus lumborum

## HANDS ON RINGS

1

**Starting Position:** With your body rigid, grasp the rings slightly wider than shoulder-width apart with a palms-down grip, so that the rings are parallel and directly above your chest.

**Action:** Allow the entire body to descend chestfirst in a controlled manner by allowing your elbows to bend and using your toes as a fulcrum. While descending, move your hands apart laterally, until your chest is directly between your hands at ring level, and your elbows are bent to 90 degrees. Return by extending your arms, pushing toward the floor until your elbows are straightened.



2

**Movement Path:** Your torso moves directly downward, and your hands move outward on the descent and inward on the ascent.





### **STABILIZE BY**

- Keeping your knees locked.
- Fixing your ankles in a stable position.
- Keeping your hips, abdominal muscles, and lower back rigid.

### **LOOK FOR**

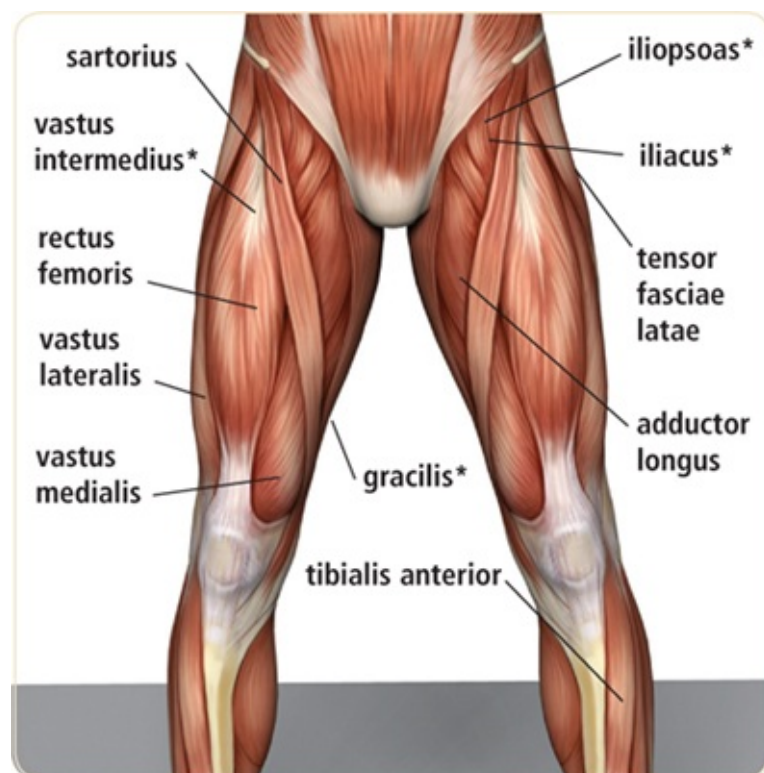
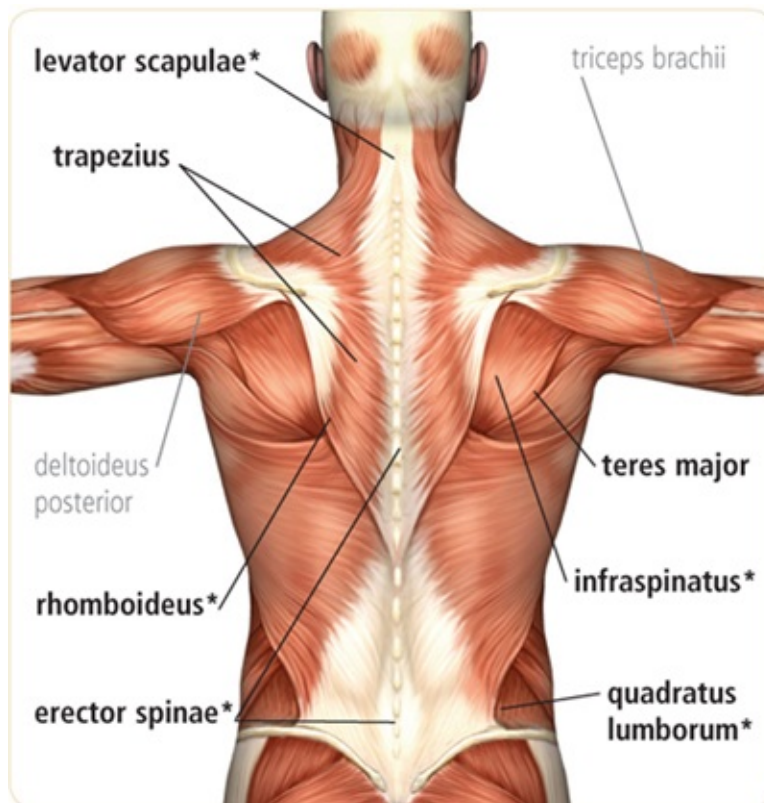
- A single plane of movement, i.e., a straight line from head to ankle.

### **AVOID**

- Segmental elevation, i.e., your shoulders rising before your hips, or vice versa.
- Elevating your shoulders toward your ears.
- Moving your head forward.







# ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- pectoralis major
- pectoralis minor
- coracobrachialis
- deltoideus anterior
- triceps brachii
- iliopsoas
- vastus lateralis
- vastus medialis
- vastus intermedius
- rectus femoris
- tibialis anterior
- transversus abdominis
- serratus anterior
- erector spinae
- trapezius
- latissimus dorsi
- quadratus lumborum

## SINGLE-ARM FORWARD SLIDE

1

**Starting Position:** On a smooth, flat surface (preferably wood), assume a push-up position with legs straight and each hand placed on a small individual towel. Hands are directly beneath shoulders.



2

**Action:** Bend one elbow and simultaneously slide the other hand upward, keeping that elbow straight to cause your torso to descend. Return by pushing into the floor with the bent arm and pulling downward with the overhead, straightened one, until your torso returns to its original position. Alternate arms.



3

**Movement Path:** Your spine moves directly downward. One arm moves upward.



### STABILIZE BY

- Keeping tension on both hands.
- Keeping legs straight and hips even.

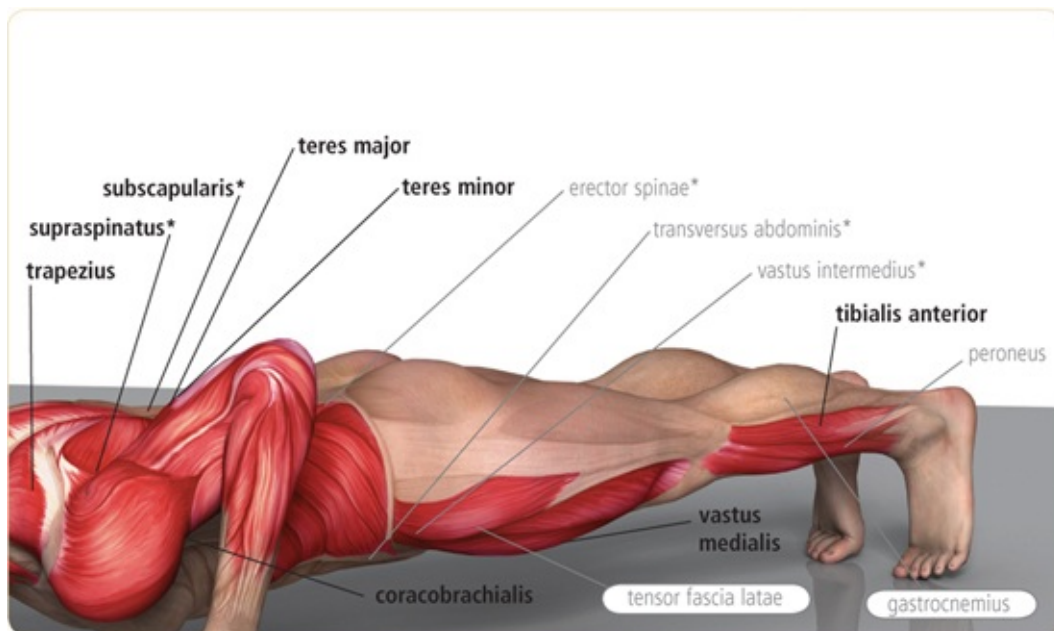
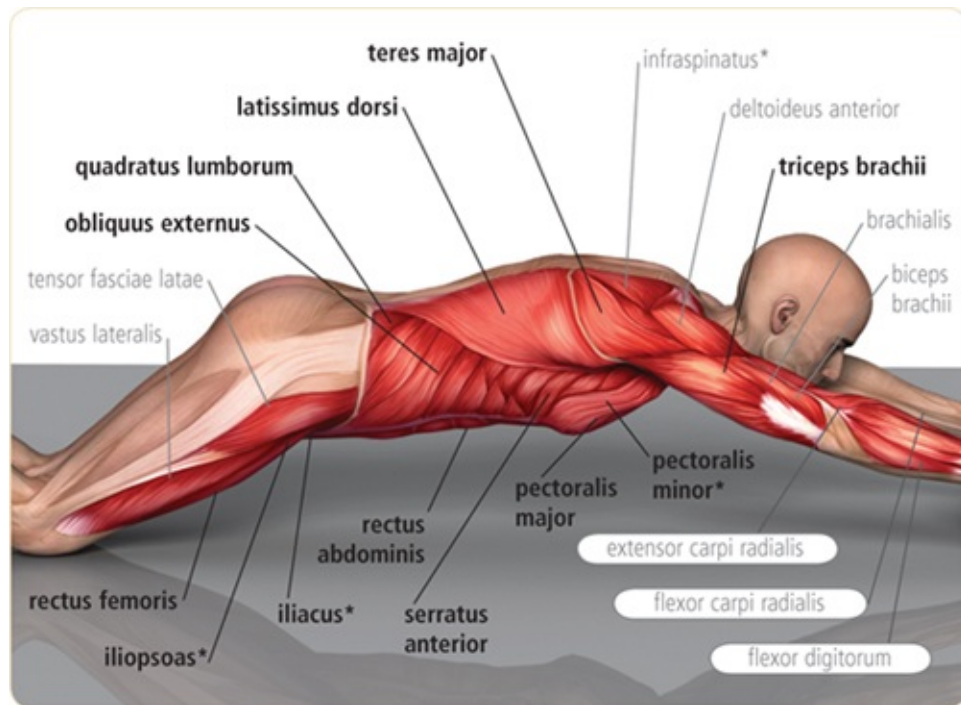
### LOOK FOR

- Smooth transitions.
- All parts to move at once.

### AVOID

- Touching the ground with the torso.
- Bending knees.
- Allowing body to rotate.





### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles



## MODIFICATION

**Less Difficult:** Assume a push-up position with your knees bent. Follow the same action and movement path.



## BEST FOR

- pectoralis major
- pectoralis minor
- coracobrachialis
- deltoideus anterior
- triceps brachii
- iliopsoas
- vastus lateralis
- vastus medialis
- vastus intermedius
- rectus femoris
- tibialis anterior
- transversus abdominis
- serratus anterior
- erector spinae
- trapezius
- latissimus dorsi
- quadratus lumborum



## CHIN-UP

---

Like its other half (the push-up), the chin-up has also been around as an exercise for thousands of years. These two are the yin and yang of the upper body's function: push and pull. The chin-up is perhaps the most intimidating of all exercises because there is only you and the bar, and either you can pull yourself up to it or you cannot. Gravity is relentless, and no matter how strong you are, when you begin to fail (and you will), there is no way to cheat it: when you're done, you're done. As an upper-body conditioning exercise, it is rivaled by only its partner the push-up (and perhaps the dip) as an absolute necessity for anyone at any level.

The joints involved are the shoulder, elbow, and wrist. The muscles used are the back, shoulders, and biceps.

The primary benefits derived from chin-ups are upper-body pulling strength and endurance, shoulder stability, grip strength, and posture.

## BASIC

1

**Starting Position:** Gripping the bar with your palms in (facing your body), hang with your knees bent only very slightly. Keep your head in a neutral alignment. Your hands should be shoulder-width apart.



2

**Action:** Pull your body up vertically until your upper chest is aligned with the bar; this is the end of the concentric phase. Lower your body back down to the starting position with your elbows fully extended (the end of the eccentric phase).



**Movement Path:** Your body moves vertically up. Your upper body tilts back slightly to allow your chin to smoothly pass the bar line.

#### **STABILIZE BY**

- Retracting your scapula.
- Keeping your core tight to prevent swinging.

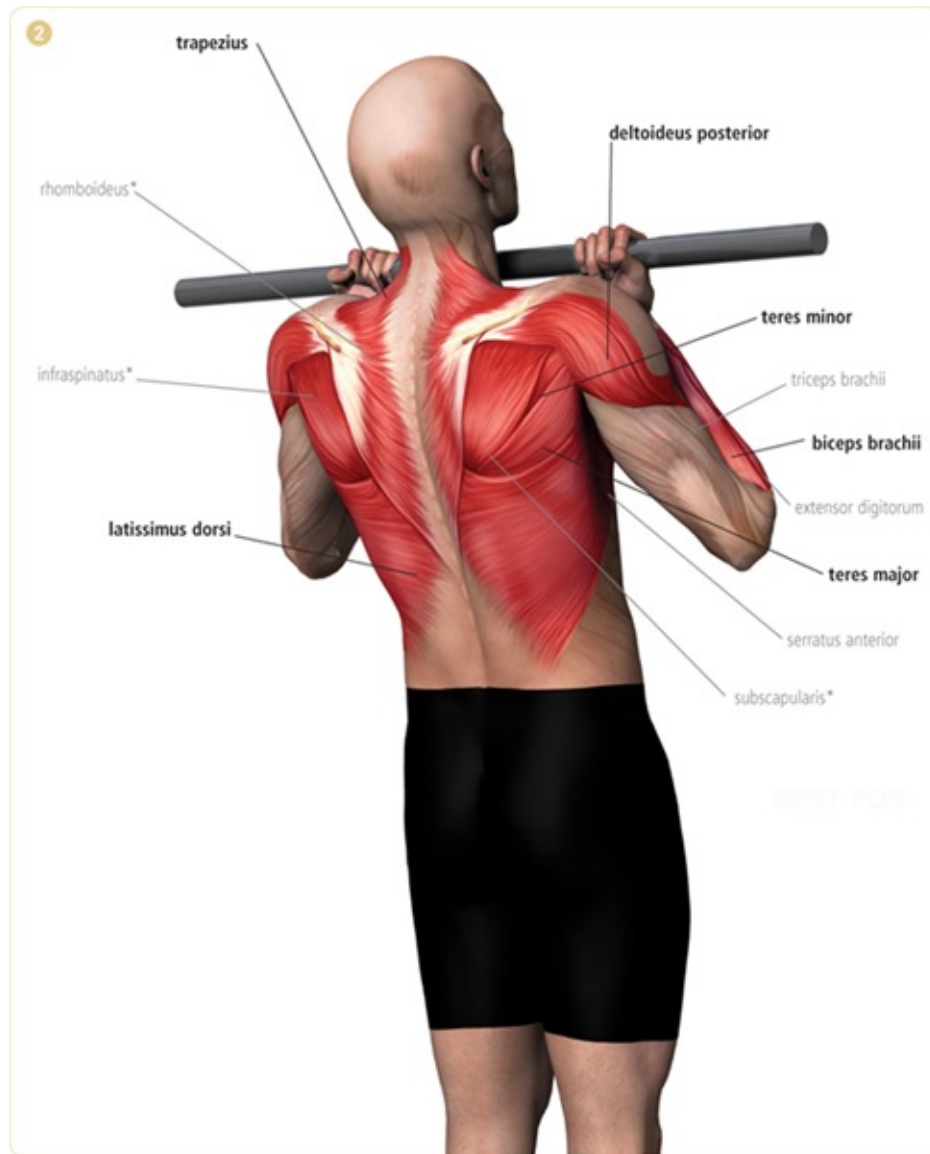
## LOOK FOR

- Your arms to return to a full extension.
- You shoulder blades to draw together and downward at the beginning of the movement.

## AVOID

- Swinging, jerking, chin “pecking,” or hyperextension of elbows.





### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- biceps brachii
- brachioradialis
- latissimus dorsi

- **deltoideus posterior**
- **rhomboideus**
- **teres major**
- **trapezius**



## PULL-UP WIDE GRIP

**Starting Position:** Gripping the bar with your palms out (facing away from your body) and your hands spread wide, hang with your knees slightly bent. Keep your head in a neutral alignment.

**Action:** Pull your body up vertically until your upper chest is aligned with the bar; this is the end of the concentric phase. Lower your body back down to the starting position with your elbows fully extended (the end of the eccentric phase).

**Movement Path:** Your body moves vertically up. Your upper body tilts back slightly to allow your chin to smoothly pass the bar line.



### **STABILIZE BY**

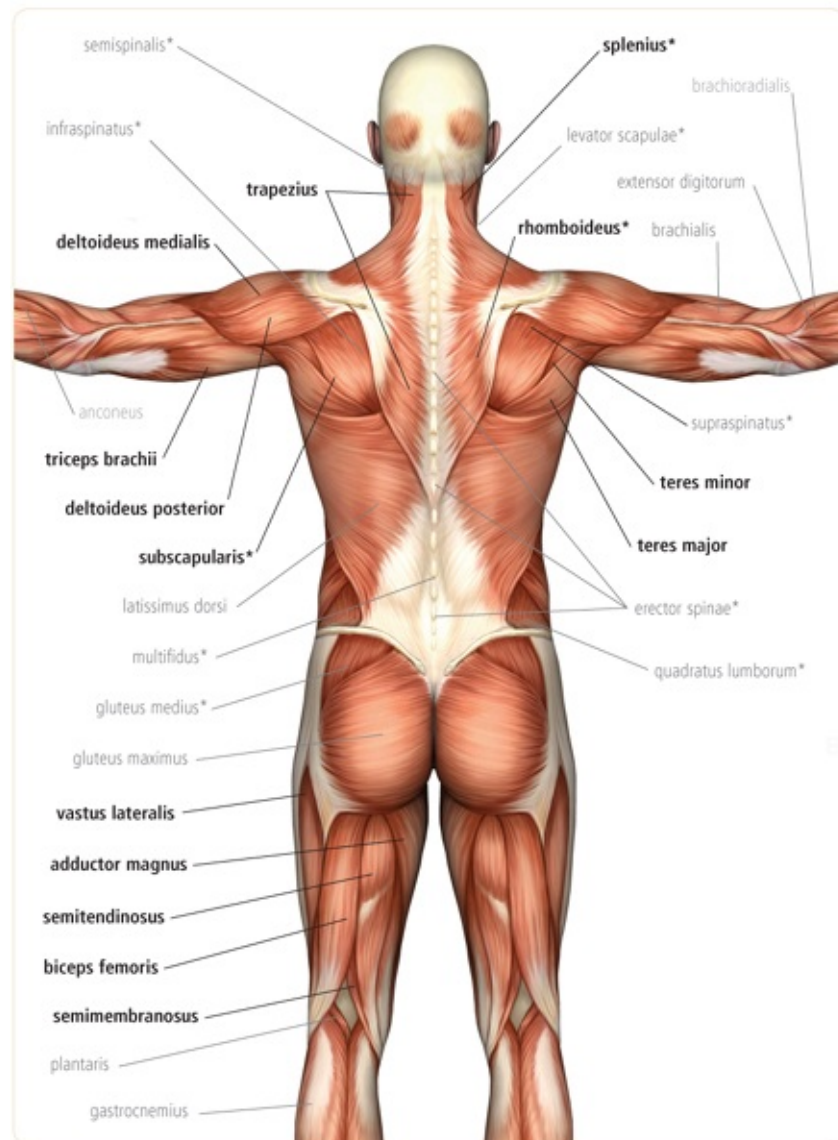
- Retracting your scapula
- Keeping your core tight to prevent swinging

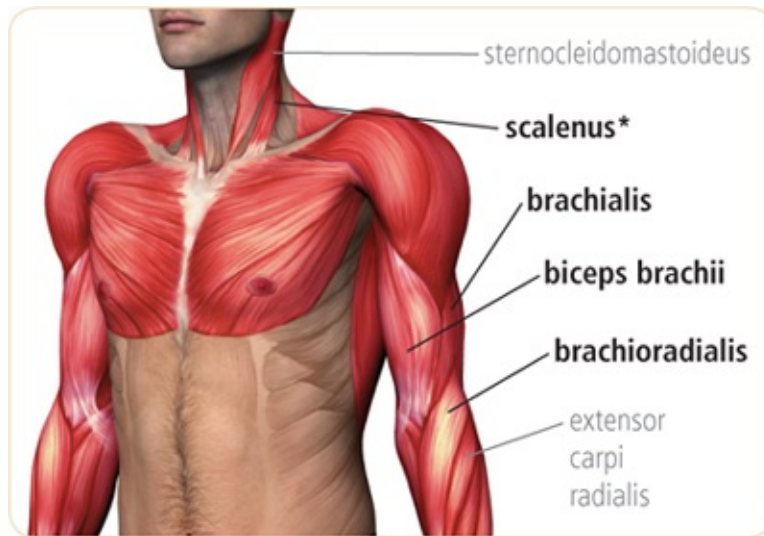
### **LOOK FOR**

- Your arms to return to a full extension.
- Your shoulder blades to draw together and downward at the beginning of the movement.

### **AVOID**

- Swinging, jerking, chin “pecking,” or hyperextension of elbows.





#### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## **BEST FOR**

- **biceps brachii**
- **brachioradialis**
- **latissimus dorsi**
- **deltoideus posterior**
- **rhomboideus**
- **teres major**
- **trapezius**

## 45-DEGREE BODY ROW

1

**Starting Position:** Hang from a bar with your body in a flat plane. The line of your body should be at a 45-degree angle to the floor. Grasp the bar with both arms in supine or prone grips. Your elbows should be at 90-degree angles.



2

**Action:** Move your feet away from the bar until your arms are straight, keeping your heels on the floor. Pull your body toward the bar until your chest touches it. Lower yourself slowly, and repeat. The bottom of your chest should always touch the bar at the end of the movement. Keep your body in a straight line on your heels.

**Movement Path:** Your entire body moves in a single arc with your feet as the fulcrum.



### **STABILIZE BY**

- Fixing your shoulders in one position.
- Locking your knees.
- Keeping your ankles in a fixed position.
- Keeping your hips, abdominal muscles, and lower back rigid.

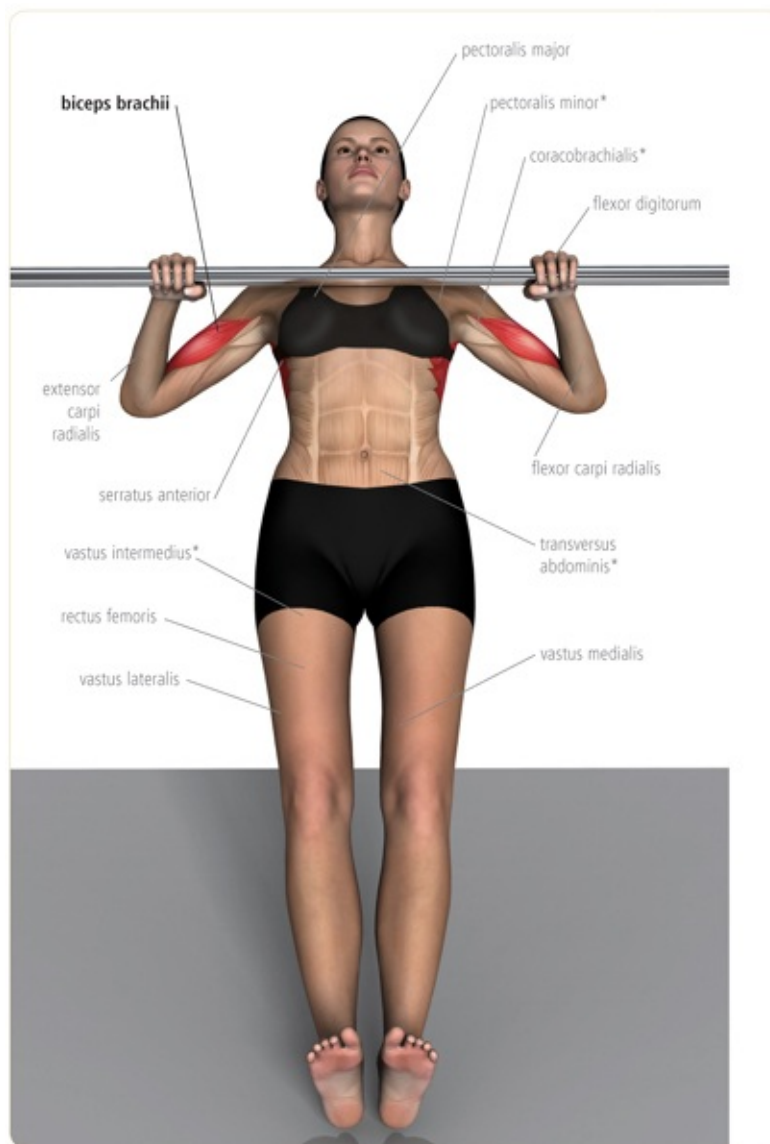
### **LOOK FOR**

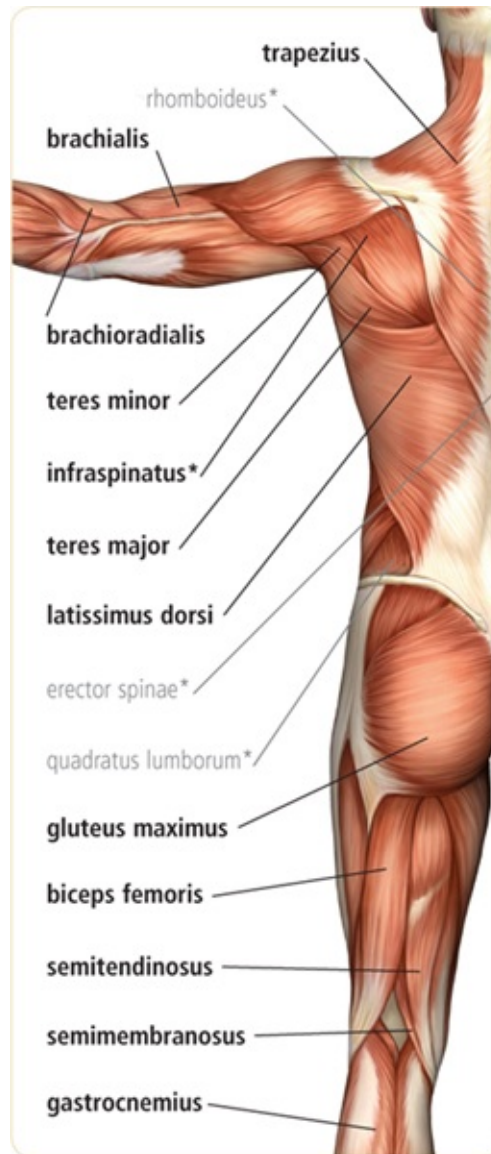
- A single plane of movement, maintaining a straight line from your head to

your ankles.

## AVOID

- A segmental elevation, such as your shoulders rising before your hips, or vice versa.
- Elevating your shoulders toward your ears.
- Moving your head forward.





### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## **BEST FOR**

- **biceps brachii**
- **brachialis**
- **brachioradialis**



- **infraspinatus**
- **latissimus dorsi**
- **rhomboideus**
- **teres major**
- **teres minor**
- **trapezius**

# HORIZONTAL BODY ROW

1

**Starting Position:** Hang from a bar with your body in a flat plane. Elevate your feet so that your body is parallel to the ground. Grasp the bar with both arms in supine or prone grips. Your elbows should be at 90-degree angles.

**Action:** Keeping your weight on your heels, pull your body toward the bar until your chest touches it. Lower yourself slowly, and repeat. The bottom of your chest should always touch the bar at the end of the movement. Keep your body in a straight line on your heels.



2

**Movement Path:** Your entire body moves in a single arc with your feet as the fulcrum.



#### **STABILIZE BY**

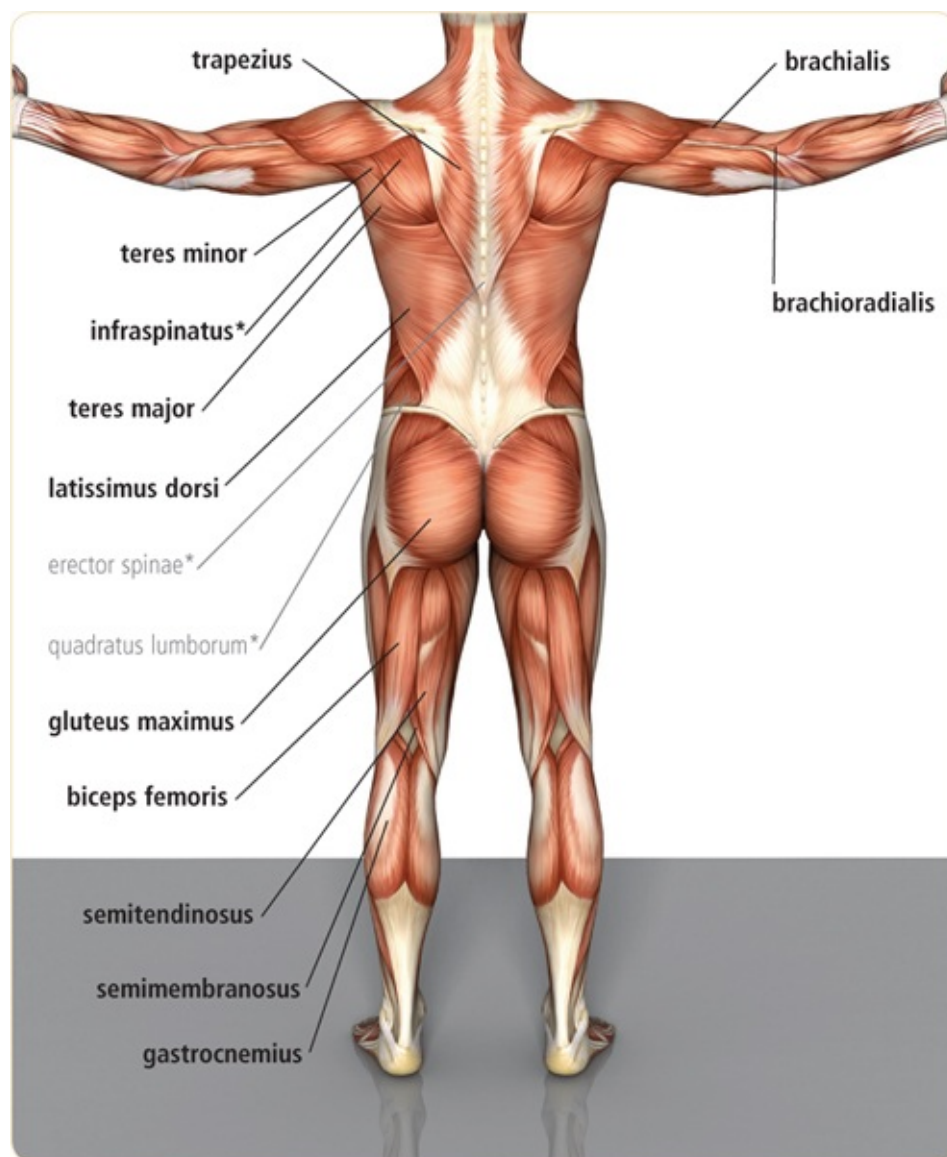
- Fixing your shoulders in one position.
- Locking your knees.
- Keeping your ankles in a fixed position.
- Keeping your hips, abdominal muscles, and lower back rigid.

#### **LOOK FOR**

- A single plane of movement, maintaining a straight line from your head to your ankles.

## **AVOID**

- A segmental elevation, such as your shoulders rising before your hips, or vice versa.
- Elevating your shoulders toward your ears.
- Moving your head forward.





#### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

#### **MODIFICATION**

**More Difficult:** Put both of your feet on a Swiss ball.



**BEST FOR**

- **biceps brachii**
- **brachialis**
- **brachioradialis**
- **infraspinatus**
- **latissimus dorsi**
- **rhomboideus**
- **teres major**
- **teres minor**
- **trapezius**

# LATERAL ROPE PULL

1

**Starting Position:** Elevate your feet on a bench. Lean at an approximately 30-degree angle from the ground, with your feet rigid and your weight on the edges of your shoes. With the rope at chest height, grasp it across your body with an alternating grip, top hand farthest away, bottom hand closest to you. The body is completely rigid.

**Action:** Holding your body rigid, pull down and across your body, keeping the rope adjacent to your chest throughout the movement.



2

**Movement Path:** Your arms move downward and inward toward the torso, your spine ascends vertically, and your knees extend slightly as your hips move upward.



#### **STABILIZE BY**

- Keeping legs straight and knees and ankles solid.
- Remaining in a neutral spine position.



## LOOK FOR

- Your feet to work as a fulcrum.
- The rope to remain adjacent to chest.

## AVOID

- Dropping your hips.
- Allowing the body to rotate.





#### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## **BEST FOR**

- **serratus anterior**
- **rectus abdominis**
- **deltoideus posterior**
- **teres minor**
- **triceps brachii**
- **pectoralis major**
- **latissimus dorsi**
- **transversus abdominis**
- **gluteus medius**

- iliopsoas
- gluteus maximus
- pectineus
- vastus lateralis
- vastus medialis
- vastus intermedius
- rectus femoris
- tensor fasciae latae
- adductor longus
- gracilis
- quadratus lumborum
- erector spinae

## PULL-UP NEUTRAL GRIP

1

**Starting Position:** Gripping the bar with your palms out (facing away from your body), hang with your knees bent and your ankles crossed. Keep your head in a neutral alignment. Your hands should be shoulder-width apart.

**Action:** Pull your body up vertically until your upper chest is aligned with the bar; this is the end of the concentric phase. Lower your body back down to the starting position with your elbows fully extended (the end of the eccentric phase).



2

**Movement Path:** Your body moves vertically up. Your upper body tilts back slightly to allow your chin to smoothly pass the bar line.



### **STABILIZE BY**

- Retracting your scapula.
- Keeping your core tight to prevent swinging.

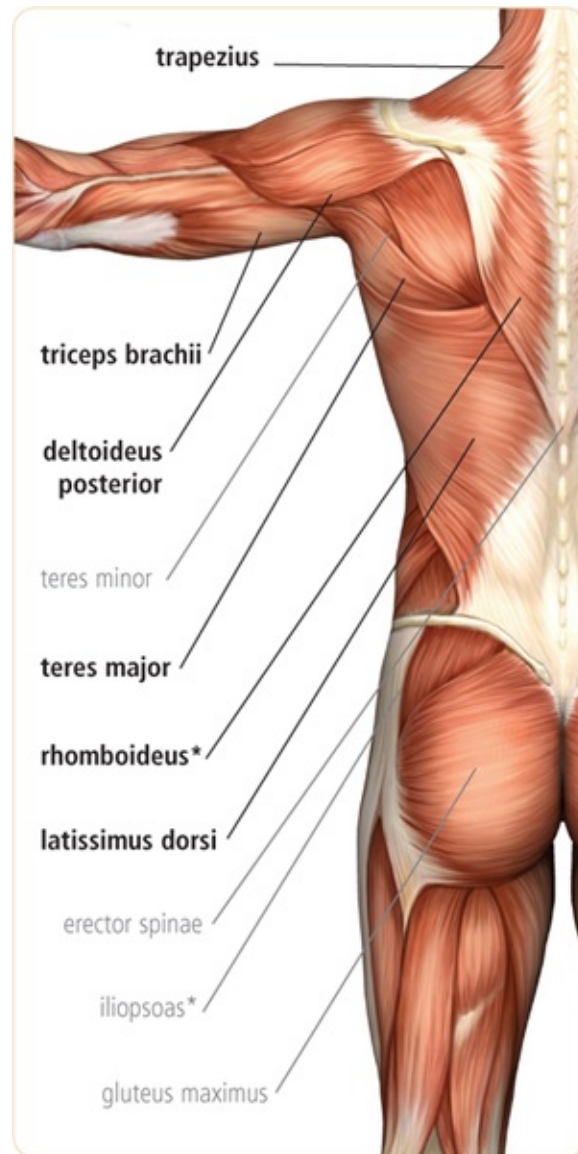
### **LOOK FOR**

- Your arms to return to a full extension.
- Your shoulder blades to draw together and downward at the beginning of the movement.

## AVOID

- Swinging, jerking, chin “pecking,” or hyperextension of elbows.





#### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## **BEST FOR**

- **biceps brachii**
- **brachioradialis**
- **latissimus dorsi**



- **deltoideus posterior**
- **rhomboideus**
- **teres major**
- **trapezius**

## STAND-PULL

1

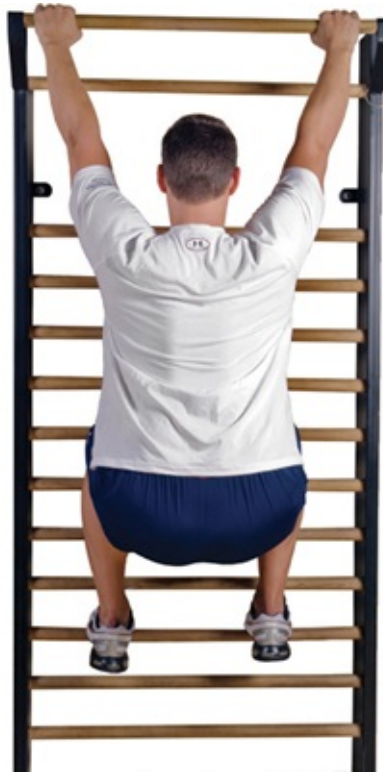
**Starting Position:** In standing position, grasp a bar at collarbone height with your palms slightly wider than shoulder-width apart and facing away from you. The tops of your shoes should be directly beneath your hands, distributing your weight so that if you were to let go of the bar, you would fall backward.

**Action:** Drop your hips down and backward, bending the knees, extending the arms, and keeping the spine in a vertical and neutral position until the arms are fully extended. Return by simultaneously pulling downward with the elbows and the arms and extending the knees and hips again, keeping the spine vertical and neutral.



2

**Movement Path:** The spine travels downward and backward, the arms extend upward and forward, the hips retract and drop, and the upper legs move up toward the torso. The lower legs remain stationary.



### STABILIZE BY

- Keeping the feet flat and weight evenly distributed.
- Keeping the spine solid, and the rib cage and head up.

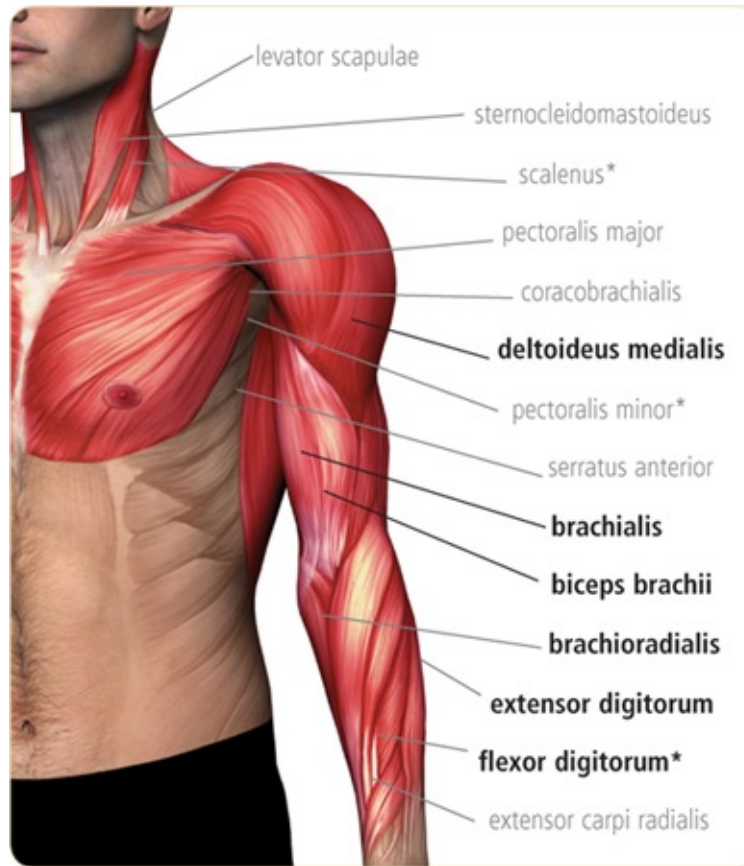
### LOOK FOR

- Simultaneous movement of all parts.
- Your head and spine to remain vertical throughout the movement.
- Your chest to be pulled up and to the bar.
- The elbows to remain adjacent to the torso at top position.

## AVOID

- Allowing the torso to drop forward.
- Pulling the elbows backward on the pull-up phase.





### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

### **MODIFICATION**

**Similar Difficulty:** Grasping a rope at chest height, stand with a slight lean backward. Sit down and backward with the hips, and keep tension on the rope as the arms extend forward and the knees bend. Return by pulling upward and extending both knees and hips.



## BEST FOR

- latissimus dorsi
- rhomboideus
- trapezius
- erector spinae
- infraspinatus
- teres major
- deltoideus posterior
- deltoideus medialis
- brachialis
- biceps brachii
- brachioradialis
- gluteus maximus
- biceps femoris
- semitendinosus
- semimembranosus

- **gastrocnemius**
- **pectoralis major**
- **pectoralis minor**
- **coracobrachialis**
- **extensor carpi radialis • extensor digitorum**
- **flexor digitorum**
- **infraspinatus**
- **levator scapulae**
- **triceps brachii**
- **serratus anterior**
- **vastus lateralis**
- **quadratus lumborum**

# STEP CHIN

1



2

**Starting Position:** Begin with your head higher than the bar and your palms down, wider than shoulder width. Place one foot on a step with only the ball of the foot bearing weight, and the other leg straight and slightly behind the weight-bearing foot.



**Action:** Begin by dropping and reaching downward with the free foot. Allow the arms to extend completely and the weight-bearing leg to bend at both the hip and the knee. During this movement, the non-weight-bearing foot should never touch the ground. Return by pulling the elbows down and pushing through the weight-bearing foot.

**Movement Path:** The spine travels downward and backward, the arms extend upward and forward, the hips retract and drop, and the upper legs move up toward the torso. The lower legs remain stationary.



**STABILIZE BY**

- Keeping the chest high and shoulders down.
- Keeping the hips and shoulders parallel.

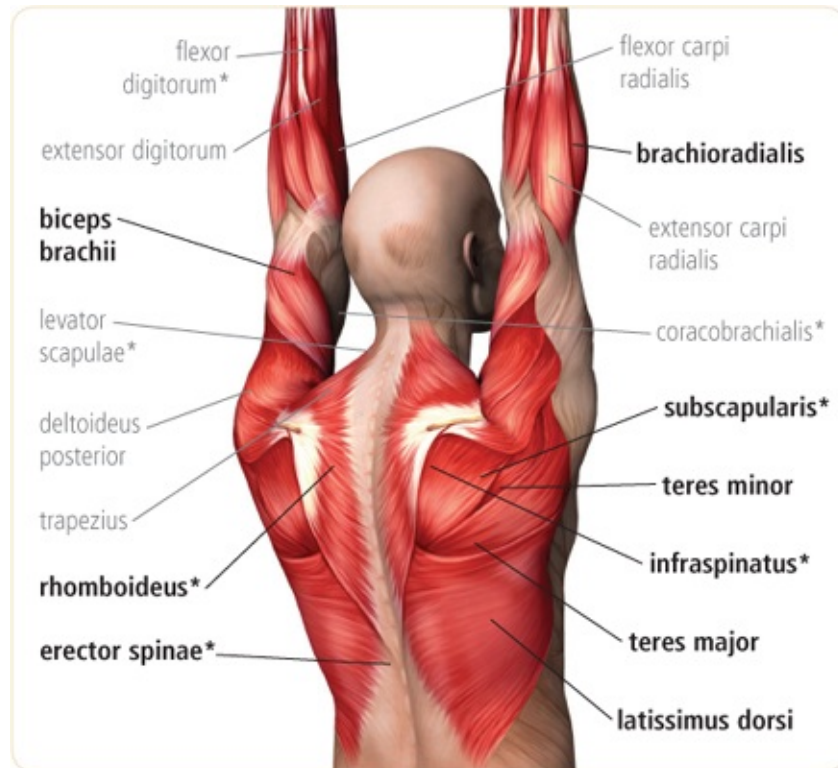
### LOOK FOR

- Non-weight-bearing leg to remain in the same plane as the spine.
- All joints to move at the same time.

### AVOID

- Allowing the shoulder to elevate.
- Rotation in the hips.
- Allowing the spine to deviate from vertical.





### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

### **MODIFICATION**

**Similar Difficulty:** Stand with your feet directly under the bar and slightly wider than hip width. Grasp the bar at neck height with one hand slightly narrower than shoulder width. Grasp a dumbbell with the other hand, the arm extended and relaxed adjacent to the hip.

Drop the hips downward and backward in a controlled manner, allowing the arm grasping the bar to extend fully while bending the knees and hips. Return by simultaneously pulling and standing, keeping the spine vertical and the dumbbell arm straight and adjacent to the side.



## BEST FOR

- latissimus dorsi
- rhomboideus
- erector spinae
- infraspinatus
- trapezius
- teres major
- teres minor
- deltoideus posterior
- biceps brachii
- brachioradialis
- gluteus maximus
- biceps femoris

- **semitendinosus**
- **semimembranosus**
- **gastrocnemius**
- **vastus medialis**
- **soleus**
- **pectoralis major**
- **coracobrachialis**
- **extensor carpi radialis**
- **flexor carpi radialis**
- **extensor digitorum**
- **flexor digitorum**
- **infraspinatus**
- **subscapularis**
- **levator scapulae**
- **triceps brachii**
- **erector spinae**

## VERTICAL ROPE WITH ALTERNATE GRIP

1

**Starting Position:** Standing with a rope directly in front of you, grasp it with an alternating grip, one hand in front of your chin, and the other slightly above your head. Step forward so that the rope hangs to one hip, and place your heels on a bench. The knees and hips should be bent to 90-degree angles, and the chest should be slightly behind the rope, with the arms extended.

**Action:** Pull down on the rope while simultaneously pushing down on your heels. Be sure to keep the knees bent and torso upright throughout the movement.



2

**Movement Path:** The arms move downward and inward toward the torso, the spine ascends vertically, and the knees extend slightly as the hips move upward.



## MODIFICATIONS

**Similar Difficulty:** Start seated on the ground with your feet on floor and your knees bent. Follow the same action and movement path.

## STABILIZE BY

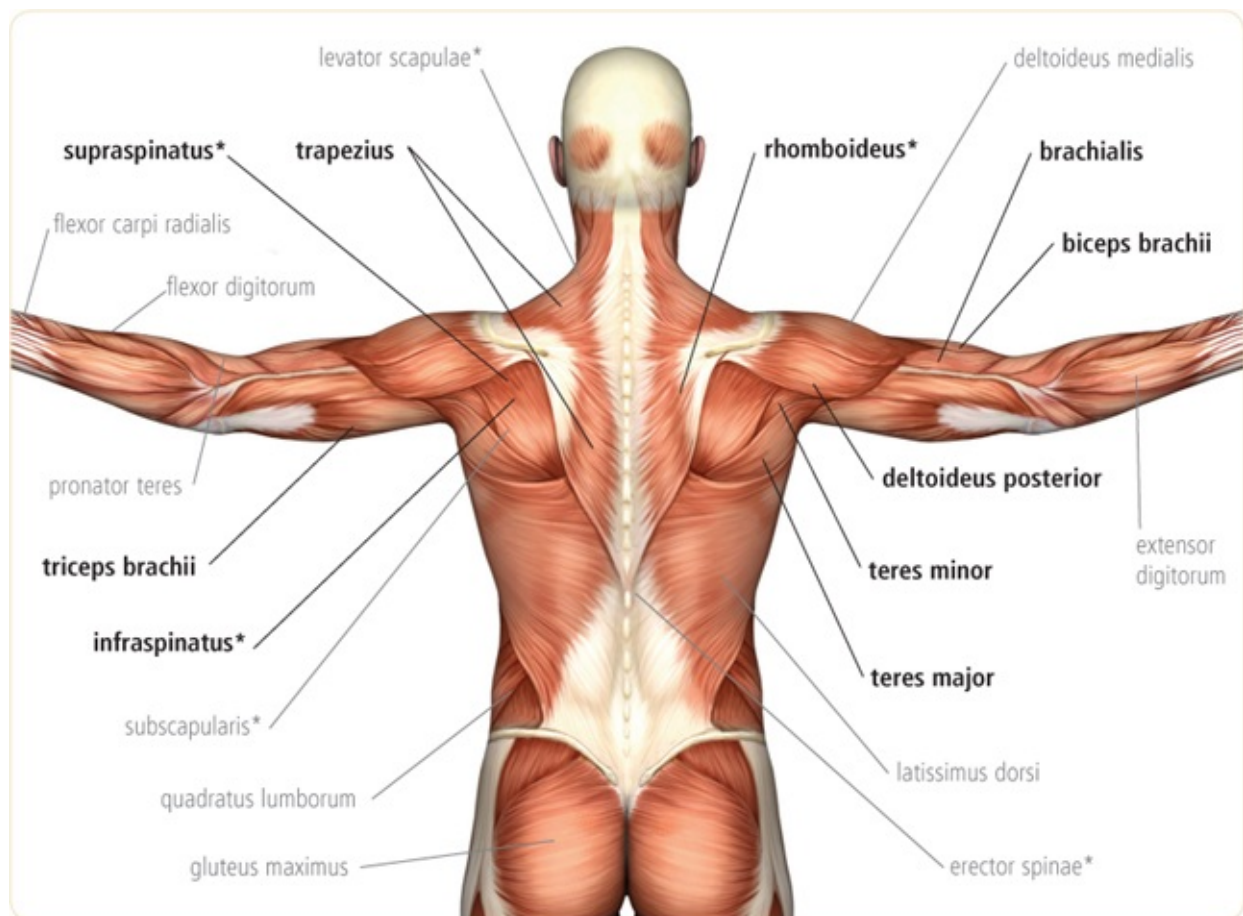
- Pulling evenly with both arms.
- Pushing evenly with both feet.
- Keeping chest and head up.

## LOOK FOR

- Hips to remain adjacent to rope.
- Spinal position to remain consistent.

## AVOID

- Extending the knees excessively.
- Allowing the torso to rotate.







### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- biceps brachii
- latissimus dorsi
- deltoideus posterior
- deltoideus medialis
- rhomboideus
- teres major
- teres minor
- trapezius
- biceps femoris

- gastrocnemius
- flexor carpi radialis
- flexor digitorum
- extensor hallucis longus • extensor digitorum longus • triceps brachii
- brachialis
- pronator teres
- peroneus longus
- peroneus brevis
- levator scapulae
- subscapularis
- infraspinatus
- quadratus lumborum
- gluteus maximus
- extensor digitorum
- erector spinae
- tensor fasciae latae
- rectus femoris
- vastus medialis
- tibialis anterior
- tibialis posterior
- vastus lateralis
- piriformis
- gluteus medius

## DROP & PULL

1

**Starting Position:** Grasp a rope with alternating grips, one hand in front of your face and the other in front of your chest. Your body should lean on the rope in front of you at an approximately 45-degree angle.



2

**Action:** Allow your body to drop and rotate to one side of the rope in a controlled manner, moving yourself toward the floor until the arms are

completely extended and the feet, hips, and torso are turned 45 degrees, and you are on your side. Keeping your body completely rigid, pull on the rope while rotating the lower body and pushing into the floor with the toes until your body is adjacent to the rope. At this point, extend your arms, pushing the rope away and your body up and out to return to the starting position.



3

**Movement Path:** The torso moves downward and rotates. The arms move toward the torso, and then across and away.



### **STABILIZE BY**

- Keeping the legs, hips, and spine rigid.
- Keeping your weight on the edge of your shoe as the body rotates.

### **LOOK FOR**

- All body parts to move at once.
- The feet to be involved in the movement.

### **AVOID**

- Allowing hips to sag.
- Segmental movement of knees, hips, and spine.



## ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- serratus anterior
- obliquus externus
- rectus abdominis
- deltoideus posterior
- teres major
- teres minor
- infraspinatus
- subscapularis
- triceps brachii
- pectoralis major
- pectoralis minor
- latissimus dorsi
- transversus abdominis
- gluteus medius
- iliopsoas
- gluteus maximus
- pectineus
- vastus lateralis
- vastus medialis
- vastus intermedius
- biceps femoris
- semitendinosus
- tensor fasciae latae
- adductor longus
- adductor magnus
- gracilis
- quadratus lumborum

- **erector spinae**



# ROPE CHINS

1

**Starting Position:** Standing on your tiptoes with a rope directly in front of you, grasp the rope with an alternating grip, one arm completely extended, and the other slightly above your head. Step forward so that the rope hangs directly adjacent to your chest and runs down the middle of your body.



2

**Action:** Bend your knees slightly and remove your body weight from the

floor so that you are hanging onto the rope with only your hands. Pull down on the rope until your chin rises above your bottom hand. Be sure to keep the knees bent and the torso upright throughout the movement. Let yourself down slowly and repeat.

**Movement Path:** The arms move downward and inward toward the torso, the spine ascends vertically, and the knees remain slightly bent.



### **STABILIZE BY**

- Pulling evenly with both arms.
- Keeping chest and head up.

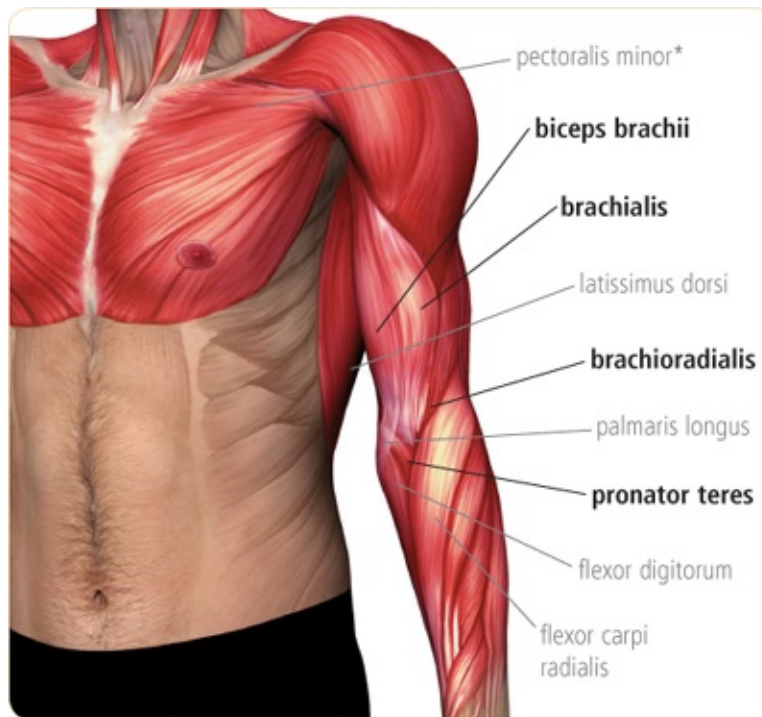
## LOOK FOR

- Hips and chest to remain adjacent to rope.
- Spinal position to remain consistent.

## AVOID

- Allowing the torso to rotate.





#### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- **biceps brachii**
- **brachioradialis**
- **latissimus dorsi**
- **deltoideus posterior**
- **rhomboideus**
- **infraspinatus**
- **teres major**
- **teres minor**
- **trapezius**
- **pronator teres**
- **flexor carpi radialis • flexor digitorum**

- **pectoralis minor**
- **deltoideus**
- **triceps brachii**
- **brachialis**
- **palmaris longus**



## AB WHEEL

---

I chose this type of abdominal exercise for a very specific reason: the abdominals are the muscles that get the most attention paid to them with the least results. I have seen thousands of people perform endless ab crunches with very little to show for it—other than sore necks and backs.

The ab wheel—and variations I’ve chosen—generally involve a lot of muscles and, as far as bang for the buck, are without question the most effective movements I’ve seen. They produce results.

The joints involved are the hips, shoulders, and knees. The primary muscles used are the abdominals, obliques, and hip flexors. The muscles of the back and chest are all involved.

The primary benefits of this exercise are stomach and hip strength and flexibility, lower-back flexibility, and spinal and shoulder stability.

1

**Starting Position:** On your knees, bend your torso forward at a 45-degree angle, with your spine in a neutral position. Extend your arms forward at a 45- to 90-degree angle to your torso, with your elbows straight and your hands grasping the wheel.



2

**Action:** Inhale, and extend your arms forward, allowing your torso to drop until your chest is almost parallel to the floor, rolling the wheel in a straight line away from you. Your hips move forward, following your torso, but your knees remain stationary. Exhale, and draw your arms and hips back simultaneously; your torso elevates and returns to the starting position.

**Movement Path:** Your center of mass is translated forward and downward as your arms and hips extend into a linear position, with your knees as the fulcrum.



### STABILIZE BY

- Pulling your abdomen up and in.



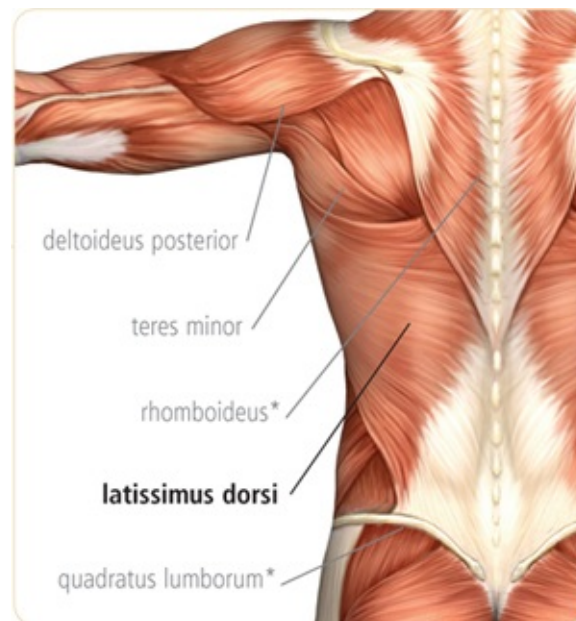
- Keeping your shoulders down and back throughout the movement.
- Keeping your arms extended and your wrists solid.
- Maintaining a neutral spinal position throughout the movement.

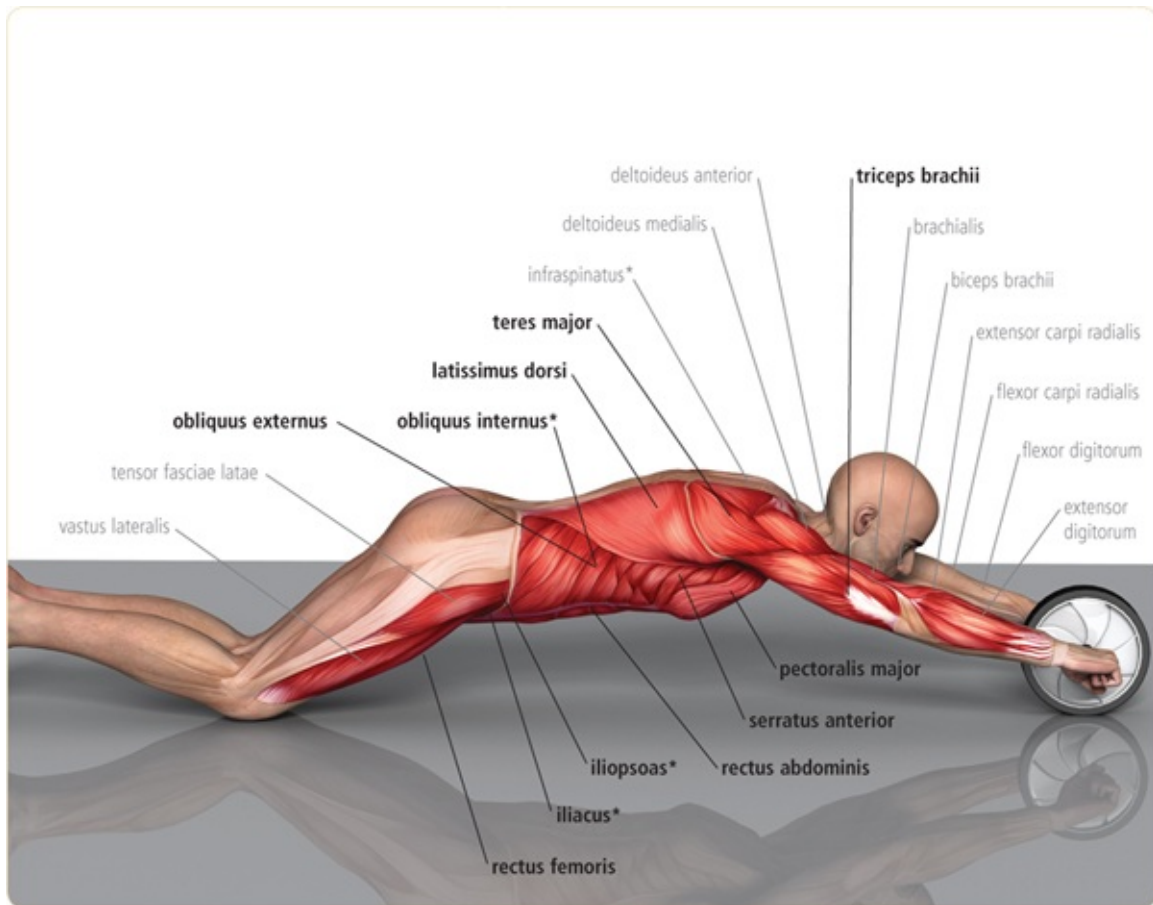
### LOOK FOR

- All joints to move at the same time.
- Your head and spine to remain aligned.

### AVOID

- Rounding or arching your spine.
- Allowing your joints to move sequentially.
- Moving quickly in either direction.





### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

### MODIFICATION

**Similar Difficulty:** Replace the wheel with a physio ball; your hands begin higher up.



## BEST FOR

- iliacus
- iliopsoas
- latissimus dorsi
- obliquus externus
- obliquus internus
- pectoralis major
- rectus abdominis
- rectus femoris
- serratus anterior
- teres major
- teres minor
- triceps brachii
- deltoideus
- rhomboideus
- tensor fasciae latae
- infraspinatus
- triceps brachii
- brachialis
- biceps brachii
- extensor carpi radialis
- flexor carpi radialis
- flexor digitorum
- extensor digitorum
- quadratus lumborum

## PLOW ON PHYSIO BALL

1

**Starting Position:** Place your hands on the ground, with your legs extended so that the tops of your shoes are on top of a physio ball in a push-up position. Keep your spine neutral.



2

**Action:** Pull your knees up toward your chest while flexing your feet, balancing your toes on the ball, driving your hips toward the ceiling, and retracting your abdomen.

**Movement Path:** Your torso flexes in a straight line and a single plane. Your feet move up toward your midline in a horizontal plane.



### **STABILIZE BY**

- Keeping your chest high and contracted.
- Elongating your neck and extending your elbows throughout the movement.

### **LOOK FOR**

- A simultaneous movement while your hips raise, so that your spine is at a 45-degree angle from your hip to your shoulder from the ground.

### **AVOID**

- Dropping your knees toward the floor.
- Bending your elbows.
- Allowing your shoulders to either elevate toward your ears or round forward.



### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

### BEST FOR

- iliacus
- iliopsoas
- obliquus externus

- obliquus internus
- rectus abdominis
- sartorius
- tibialis anterior
- transversus abdominis • tensor fasciae latae
- rectus femoris
- serratus anterior
- brachialis
- extensor digitorum
- triceps brachii
- deltoideus posterior
- rhomboideus
- subscapularis
- latissimus dorsi
- pectoralis major

## PLOW WITH ROTATION

1

**Starting Position:** Assume the top of a push-up position with your hands slightly wider than shoulder width, with your feet on a towel or a small physio ball.

**Action:** Keeping your shoulder girdle solid, draw both knees upward while simultaneously rotating the hips and lower body until the ankle is rotated 90 degrees and both feet are on edge and pointing to one side. Extend the knees and hips, and rotate back to the starting position. Repeat on other side.



2

**Movement Path:** The torso remains stationary, while the hips and knees flex and rotate.





### **STABILIZE BY**

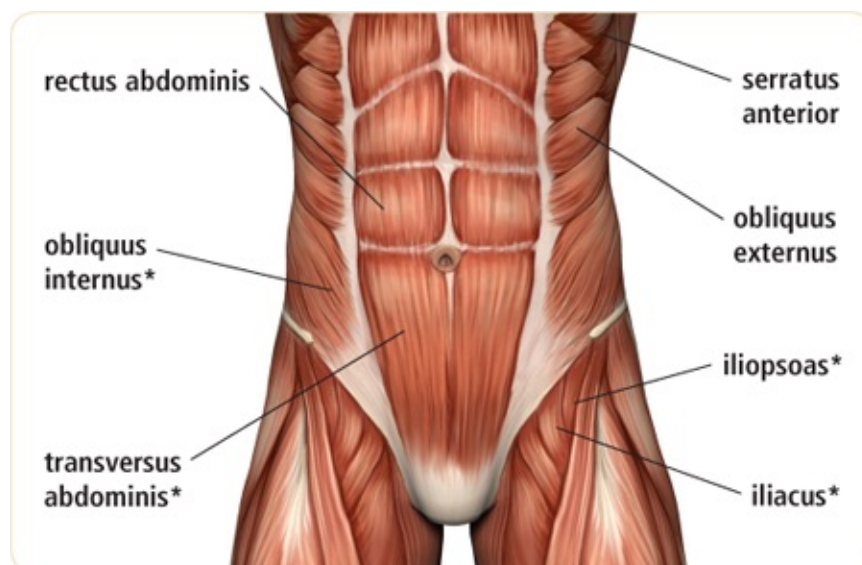
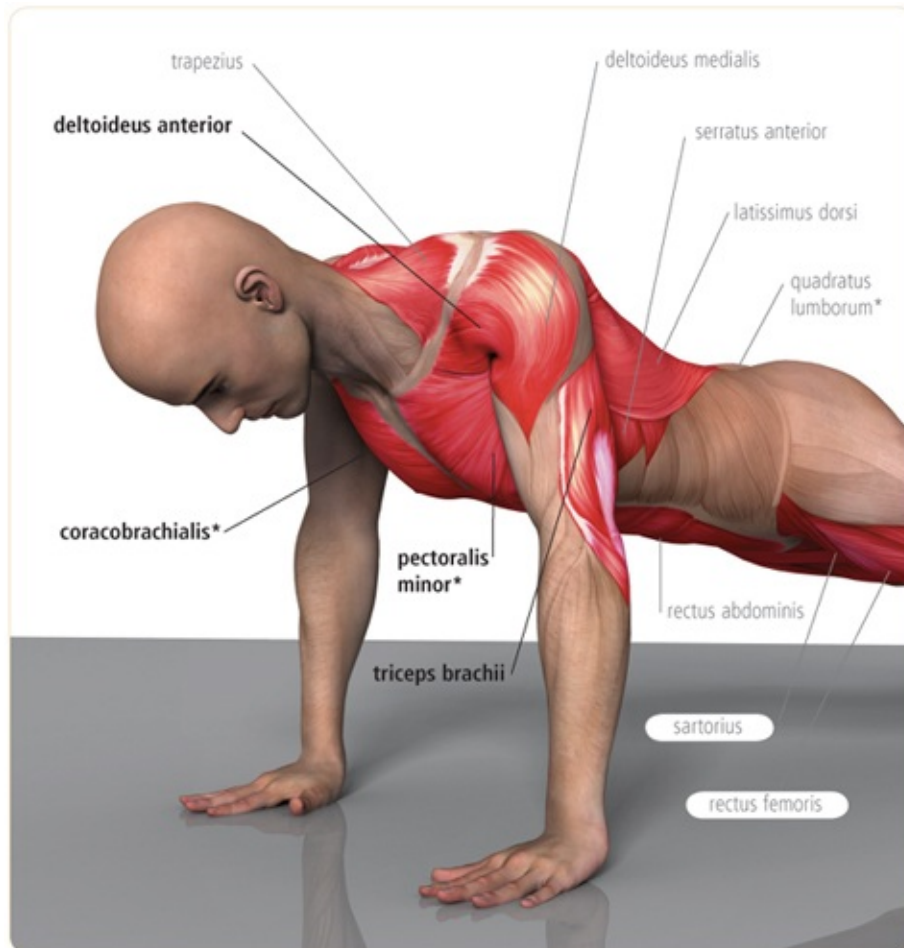
- Keeping elbows straight.
- Keeping spine high.
- Allowing weight to be evenly distributed on support.

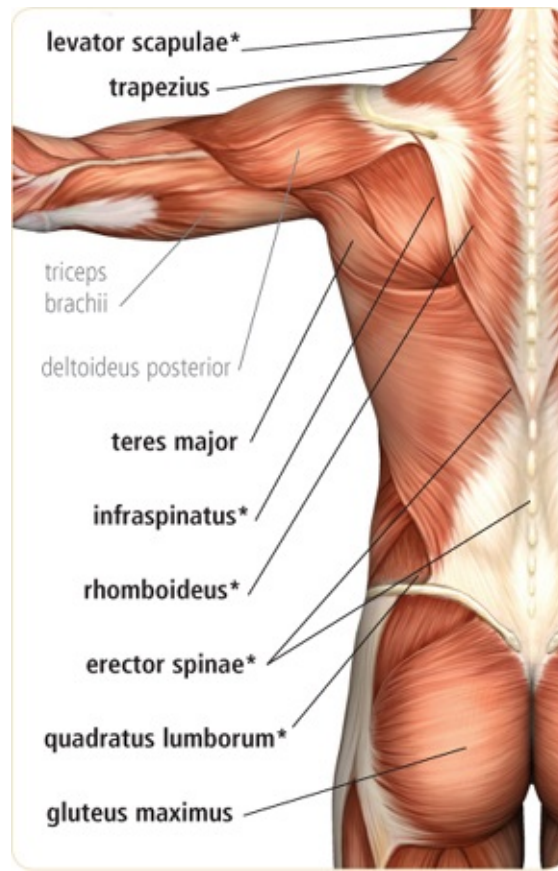
### **LOOK FOR**

- A smooth and even movement.
- The hips to remain at the same height throughout the movement.
- Your feet to be solid and bearing weight on the edge of the shoe.
- The knees to remain parallel.

### **AVOID**

- Allowing your back to either arch or sag.
- Moving your shoulders.
- Separating either your knees or feet.





### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## **BEST FOR**

- **rectus abdominis**
- **obliquus internus**
- **obliquus externus**
- **transversus abdominis**
- **rectus femoris**
- **sartorius**
- **iliopsoas**
- **iliacus**
- **triceps brachii**

- **deltoideus anterior**
- **rhomboideus**
- **infraspinatus**
- **teres major**
- **latissimus dorsi**
- **quadratus lumborum**
- **serratus anterior**
- **coracobrachialis**
- **erector spinae**
- **gluteus maximus**

## STRAIGHT-LEG HANGING RAISE

1

**Starting Position:** Grab a bar with your palms facing forward and preferably with your back against a wall. The feet should not be contacting the ground.

**Action:** Pulling on the bar so that the shoulders are down and away from your ears, keep the legs straight (knees and ankles taut). Kick forward, bringing both legs up to horizontal, keeping your lower back flat, and exhaling. Slowly allow your legs to drop in a controlled manner until they are directly beneath you.



**Movement Path:** The torso remains motionless and the lower body flexes and moves upward and forward in a curvilinear fashion to 90 degrees at the hips.

2



### **STABILIZE BY**

- Keeping stomach tight, your chest up, and your legs completely rigid.

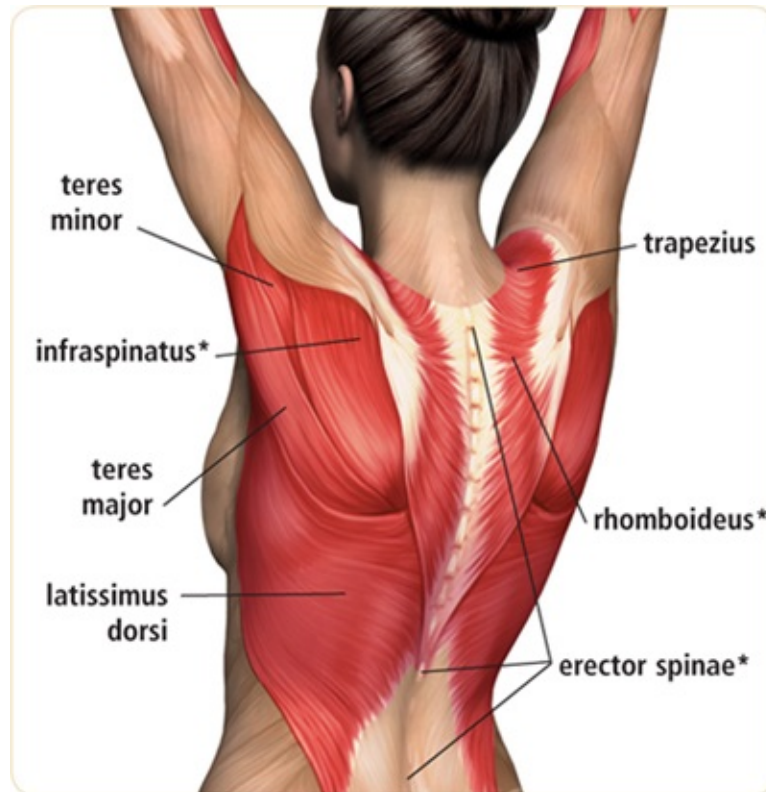
### **LOOK FOR**

- Legs to move in a controlled manner.
- A 90-degree angle in torso/hip.
- Shoulders to remain down.

### **AVOID**

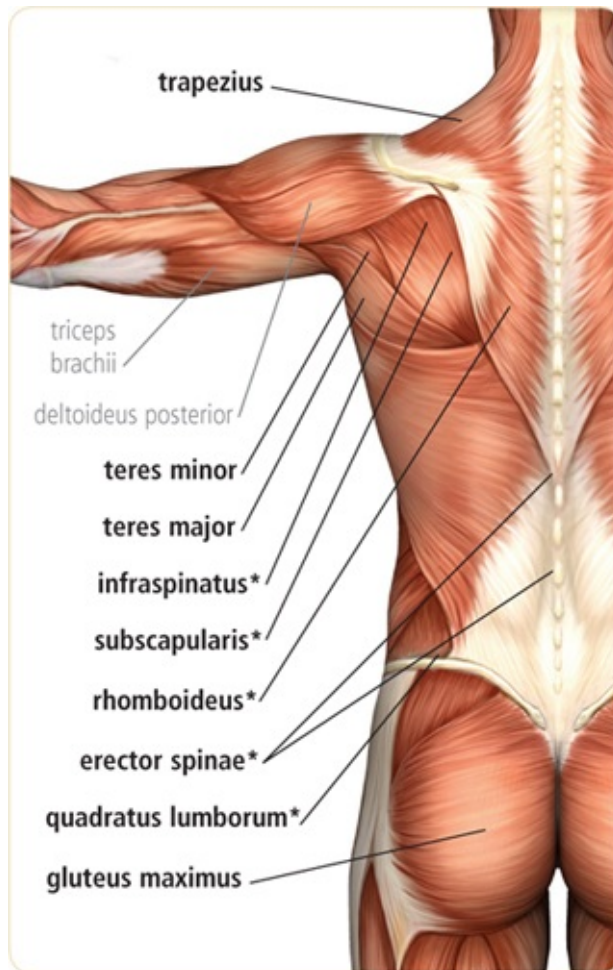
- Swinging and creating momentum.

- Allowing hips to roll upward and forward.
- Arching the back.









#### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- rectus abdominis
- obliquus externus
- iliopsoas
- iliacus
- rectus femoris
- tensor fasciae latae
- pectoralis major

- latissimus dorsi
- teres major
- teres minor
- triceps brachii
- trapezius
- rhomboideus
- subscapularis
- infraspinatus
- transversus abdominis
- vastus lateralis
- vastus medialis
- vastus intermedius
- rectus femoris
- erector spinae
- quadratus lumborum

## BENT-KNEE HANGING RAISE WITH MEDICINE BALL

1



2

**Starting Position:** Clasping a medicine ball between your knees, hang with your upper arms in stirrups, with your elbows bent at 90-degree angles, pointing forward just above shoulder height. Grasp the stirrups with your

hands and make sure your torso, legs, and hips are straight.

**Action:** Pull your upper arms and elbows downward and your upper legs and knees upward toward your elbows, flexing at the hips. Tuck your hips forward and bring your chest forward slightly. Return to the starting position in a slow and controlled manner. Exhale as you rise and inhale as you return to the starting position.

**Movement Path:** Your torso rounds slightly as your hips flex upward and your upper arms are pulled downward. Your center of mass makes no appreciable movement.



#### STABILIZE BY

- Keeping your upper arms parallel and your shoulders down.

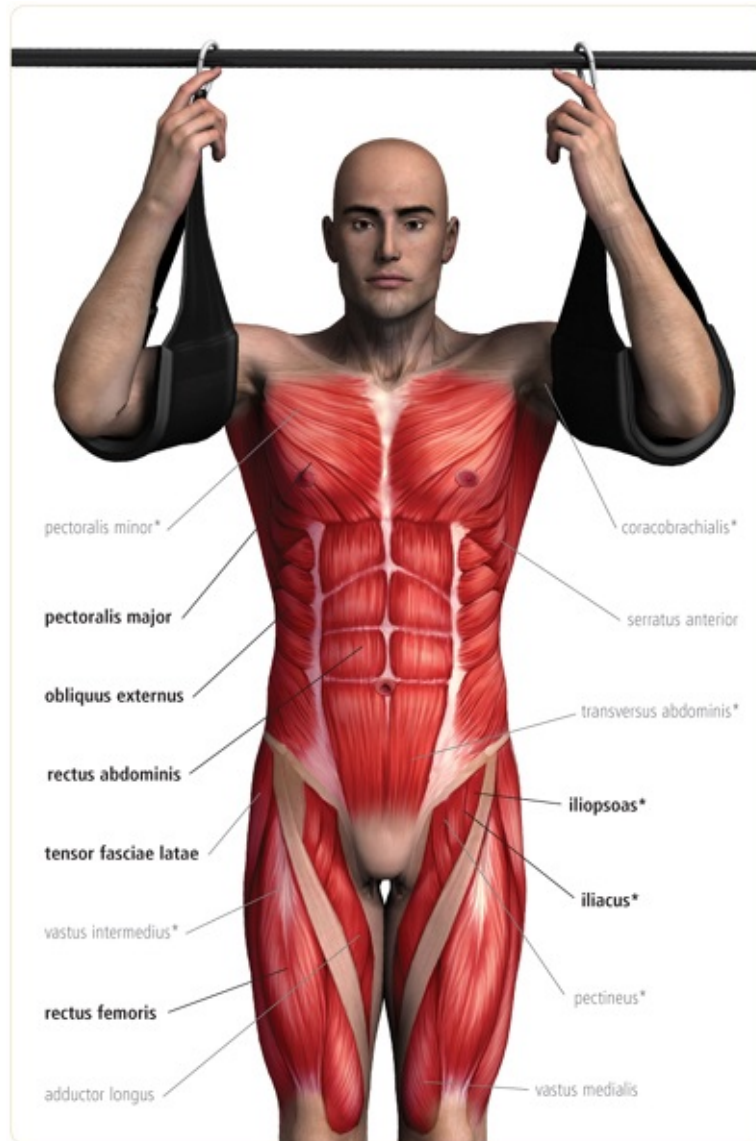
- Gripping the stirrups firmly.
- Keeping your legs parallel.

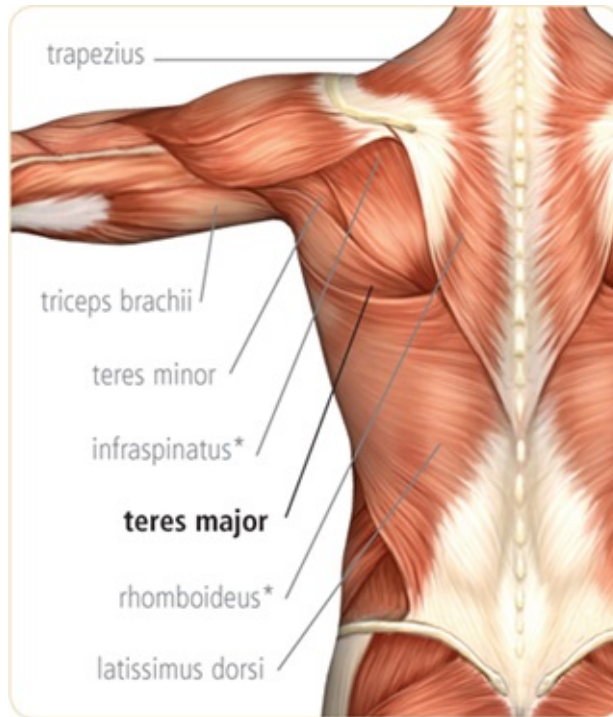
### **LOOK FOR**

- Your knees to bend as your upper legs are raised (your lower legs remain vertical).
- Your legs to move upward together.

### **AVOID**

- Swinging.
- Extending your arms upward to more than 5 degrees above horizontal.
- Moving your hips backward.





#### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## **BEST FOR**

- **iliacus**
- **iliopsoas**
- **pectineus**
- **rectus abdominis**
- **rectus femoris**
- **tensor fasciae latae**
- **pectoralis major**
- **pectoralis minor**
- **obliquus externus**
- **vastus intermedius**
- **adductor longus**



- **vastus medialis**
- **serratus anterior**
- **coracobrachialis**
- **triceps brachii**
- **teres minor**
- **teres major**
- **rhomboideus**
- **infraspinatus**
- **latissimus dorsi**
- **trapezius**

## HANGING RAISE WITH ROTATION

1

**Starting Position:** Hang with your upper arms in stirrups, with your elbows bent at 90-degree angles, pointing forward just above shoulder height. Grasp the stirrups with your hands and make sure that your torso, legs, and hips are straight.



2

**Action:** Pull your upper arms and elbows downward while rotating your upper legs and knees up toward your elbows, flexing at the hips. Tuck your hips forward and bring your chest forward slightly. Return to the starting

position in a slow and controlled manner. Exhale as you rise, and inhale as you return to the starting position.



3

**Movement Path:** Your torso rounds and rotates slightly as your hips flex upward and your upper arms are pulled downward. Your center of mass makes no appreciable movement.



### **STABILIZE BY**

- Keeping your upper arms parallel and your shoulders down.
- Gripping the stirrups firmly.
- Keeping your legs parallel.

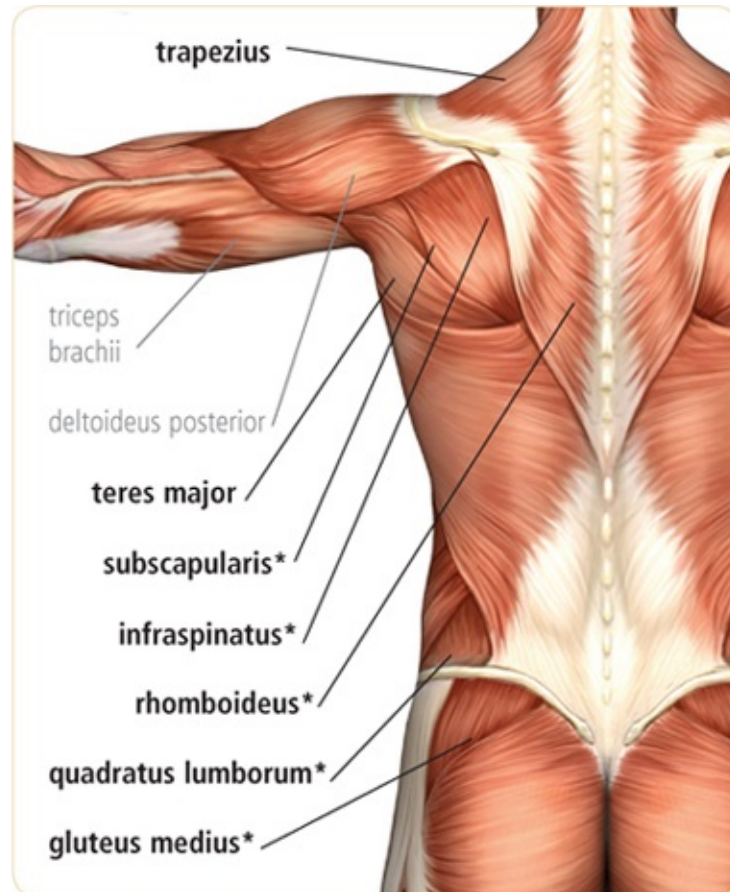
### **LOOK FOR**

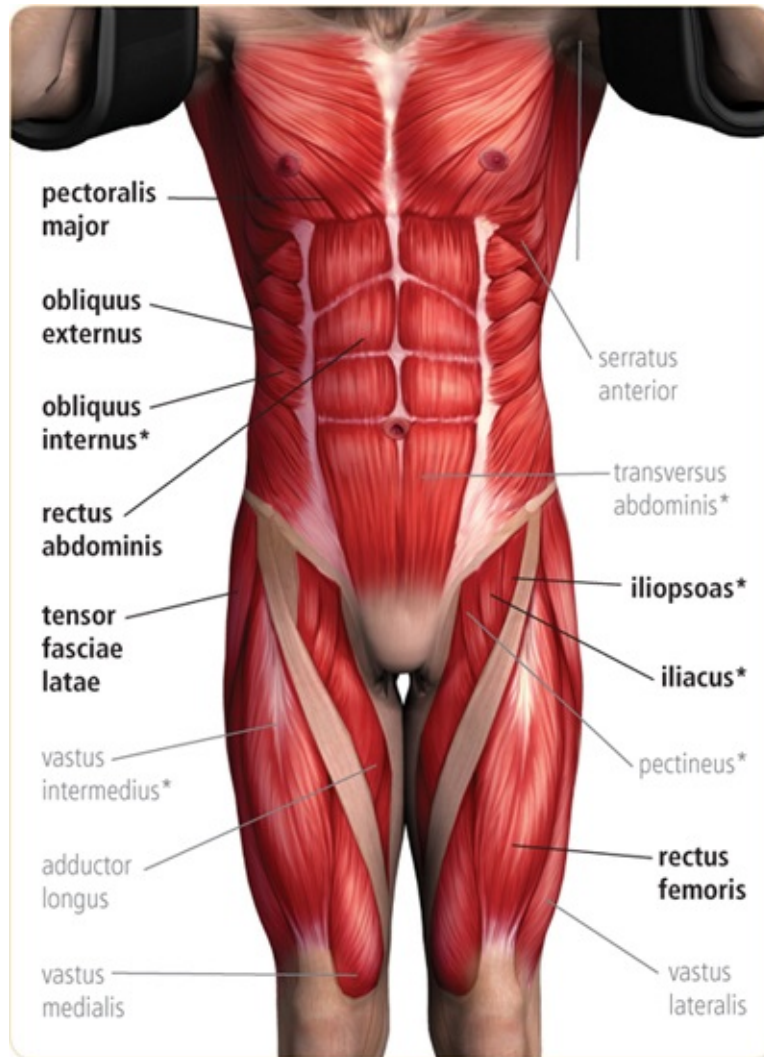
- Your knees to bend as your upper legs are raised (your lower legs remain vertical).
- Your legs to move upward together.
- Your legs to remain parallel.

### **AVOID**

- Swinging.

- Extending your arms upward to more than 5 degrees above horizontal.
- Moving your hips backward.





### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- **iliacus**
- **iliopsoas**
- **rectus abdominis**
- **rectus femoris**
- **tensor fasciae latae**

- **pectoralis major**
- **pectineus**
- **vastus intermedius**
- **adductor longus**
- **vastus lateralis**
- **vastus medialis**
- **coracobrachialis**
- **serratus anterior**
- **trapezius**
- **triceps brachii**
- **teres major**
- **infraspinatus**
- **rhomboideus**
- **subscapularis**
- **transversus abdominis**
- **trapezius**
- **deltoideus**
- **quadratus lumborum**
- **gluteus medius**
- **obliquus externus**
- **obliquus internus**

## V-UPS WITH PHYSIO BALL

1

**Starting Position:** Extend your arms above your head while lying flat on the ground. Bend your knees slightly so that your feet are slightly off the floor, keeping your spine long. Grasp a physio ball with your lower legs.



2





3

**Action:** Push your lower back into the ground, keeping your spine long. Contract your abdominal muscles and lift your upper back off the ground and forward, exhaling as you come up. Simultaneously reach upward with both arms and legs by folding the torso. Transfer the ball from your feet to your hands, and slowly return to the starting position. Repeat, and return the ball to your feet.

**Movement Path:** Your torso curves from your mid-lower back to the top of your head, in a straight line up toward the knees.



### **STABILIZE BY**

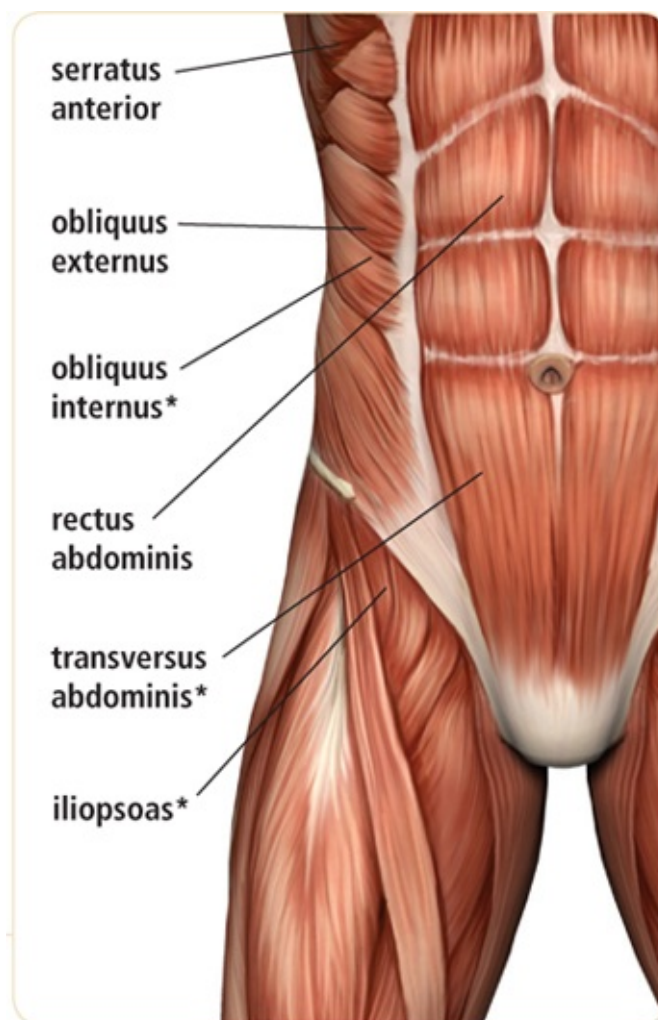
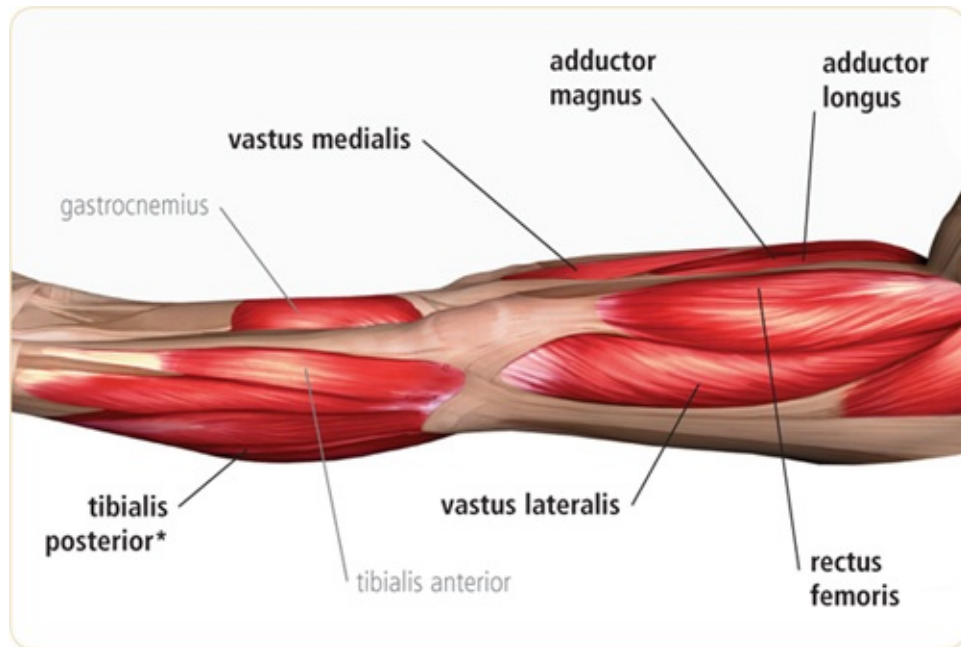
- Keeping your shoulders down with your elbows widely spread.
- Keeping your hips even and your feet flat.

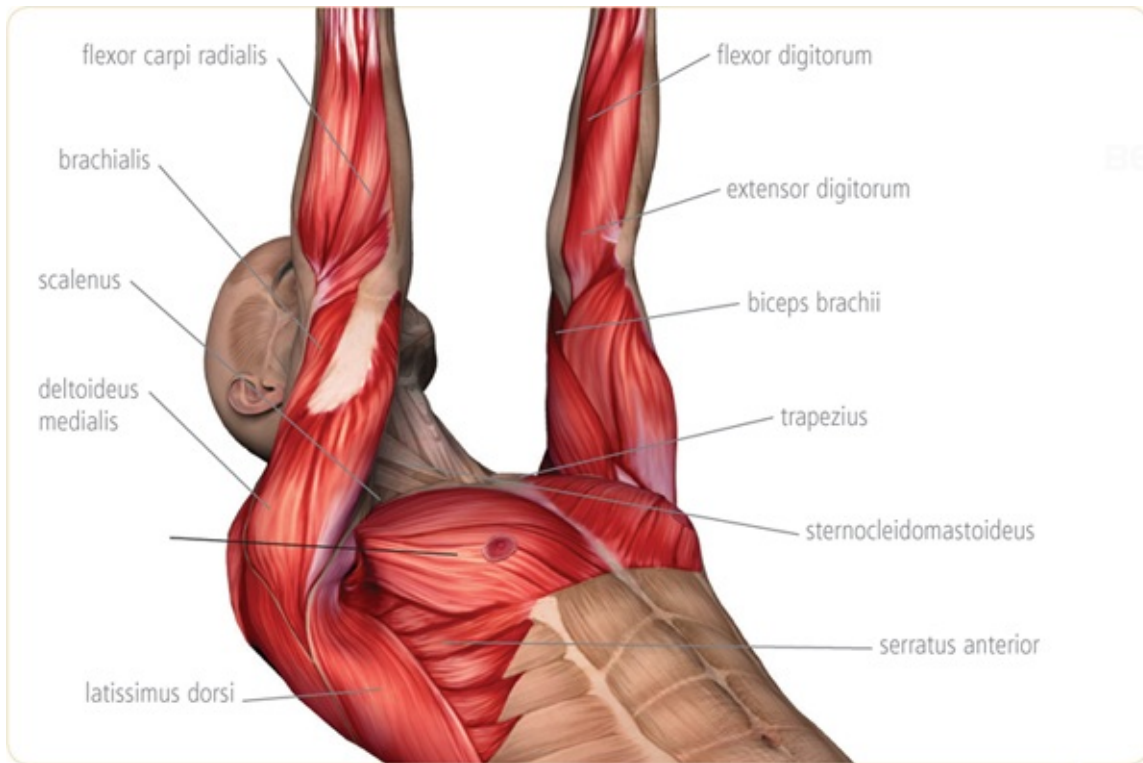
### **LOOK FOR**

- A slight pause at the top of the movement.
- A smooth movement throughout the entire length of your spine.
- Your abdominal muscles to contract and pull in.
- Your hips to remain stable.
- The knees to remain in the same position.

### **AVOID**

- Bending the knees excessively.
- Using momentum for any part of the movement.
- Arching your back or elevating your feet.





#### **ANNOTATION KEY**

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

### **BEST FOR**

- obliquus externus
- obliquus internus
- transversus abdominis
- rectus abdominis
- rectus femoris
- scalenus
- sternocleidomastoideus
- trapezius
- biceps brachii
- brachialis
- pectoralis major

- **deltoideus medialis**
- **serratus anterior**
- **latissimus dorsi**
- **iliopsoas**
- **deltoideus**
- **extensor digitorum**
- **adductor longus**
- **adductor magnus**
- **vastus medialis**
- **vastus lateralis**
- **tibialis posterior**
- **gastrocnemius**
- **tibialis anterior**
- **flexor digitorum**

## HAND WALK-OUT

**Starting Position:** From a standing position, bend forward from the waist, and place your hands on the ground in front of you, slightly wider than your feet. Keep your knees as straight as possible.





**Action:** Shift your weight to your hands and slowly “walk” them forward while keeping the knees straight, the hips up, and the spine straight. Continue dropping out until you’ve reached horizontal or push-up position. Return by walking your hands back toward the starting position and pushing your hips upward, folding the torso at the hips.

**Movement Path:** The shoulders move forward as the hips and legs move downward.



5



### **STABILIZE BY**

- Pulling your abdomen up and in.
- Keeping the spine and legs straight.

### **LOOK FOR**

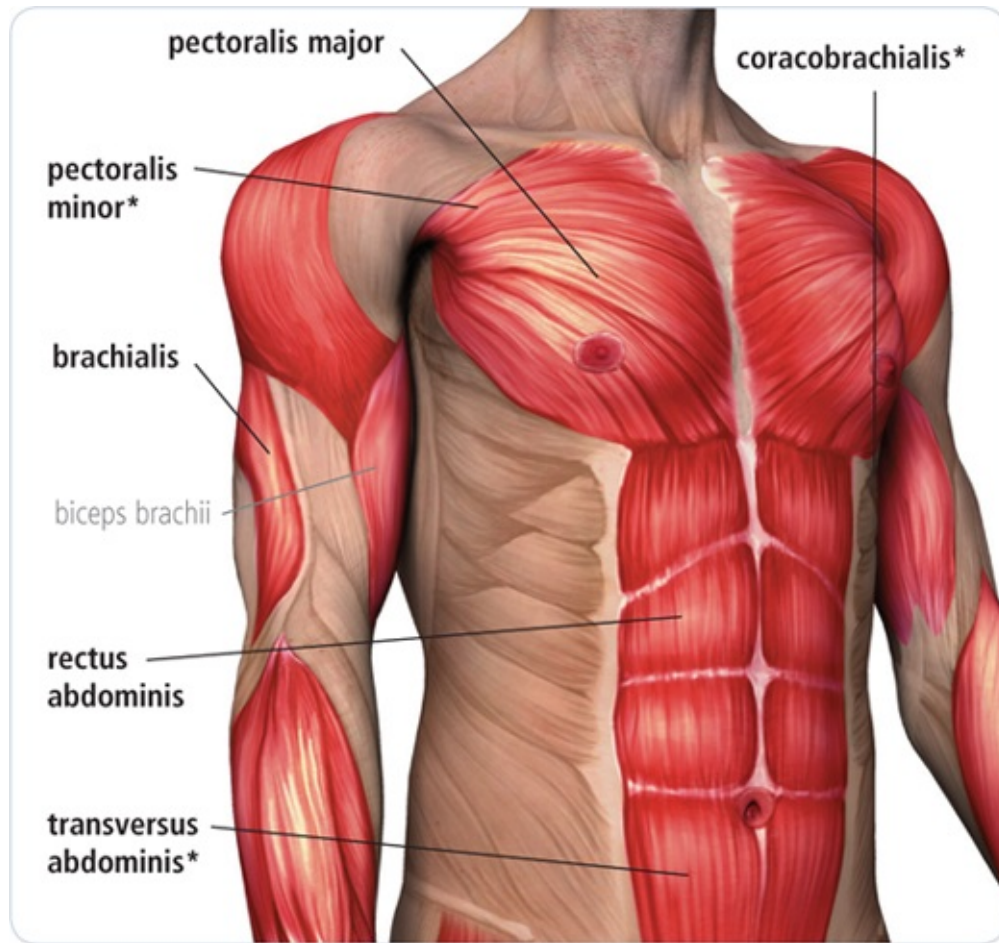
- Spine and legs to remain straight.
- Slow, steady movement.

### **AVOID**

- Bending the knees or spine.
- Allowing the elbows to bend.







#### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- pectoralis major
- pectoralis minor
- coracobrachialis
- deltoideus anterior
- triceps brachii
- iliopsoas
- vastus lateralis

- **vastus medialis**
- **vastus intermedius**
- **rectus femoris**
- **transversus abdominis**
- **serratus anterior**
- **erector spinae**
- **trapezius**
- **latissimus dorsi**
- **quadratus lumborum**
- **brachialis**
- **tibialis anterior**
- **flexor carpi radialis**
- **extensor digitorum**
- **extensor carpi radialis**
- **biceps brachii**

# FRONT PLANK

**Starting Position:** Lie facedown on the ground and fold your hands directly beneath your chin, with your elbows by your sides and both feet on your tiptoes.

**Action:** Raise the length of your torso to a horizontal position, with a slight arch in your lower back. Your shoulder blades should be flat and your spine long. Hold for 10 to 30 seconds.

**Movement Path:** None.



## MODIFICATION

**Easier:** Raise your feet and rest your weight on your knees to shorten the lever.



### **STABILIZE BY**

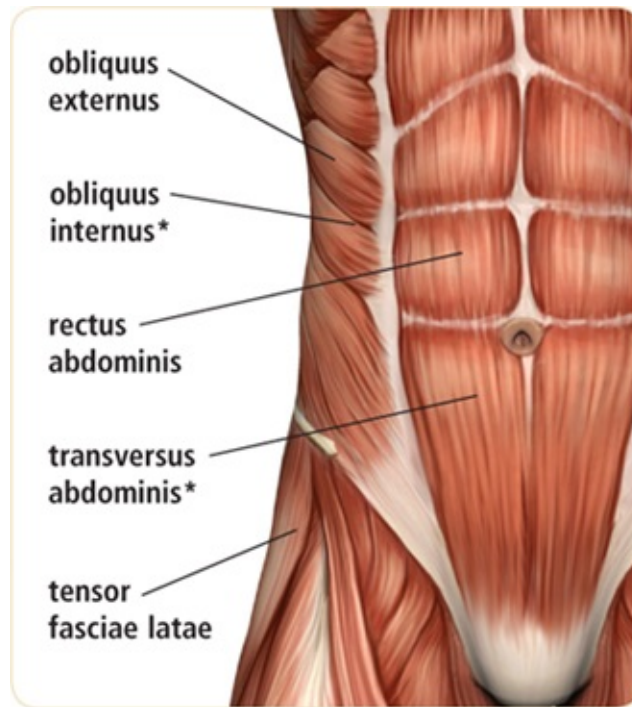
- Keeping your spine neutral.
- Keeping your shoulders down and your head up.
- Maintaining the contraction of your gluteals and legs.
- Keeping your legs straight and your ankles bent at 90-degree angles, with your toes pointing directly into the ground.

### **LOOK FOR**

- A neutral spinal position.
- Locked knees, with your ankles at 90-degree angles and your elbows directly under your shoulder joints.

### **AVOID**

- Rounding your spine, dropping your hips, and elevating your shoulders toward your ears.





### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- erector spinae
- iliacus
- iliopsoas

- obliquus internus
- obliquus externus
- rectus abdominis
- transversus abdominis
- rectus femoris
- serratus anterior
- splenius
- tibialis anterior
- vastus intermedius
- deltoideus
- pectoralis major
- rhomboideus
- latissimus dorsi
- quadratus lumborum
- tibialis anterior
- sartorius
- tensor fasciae latae



## PLANK TO PIKE

1

**Starting Position:** Place your hands on the ground, and place your feet on a physio ball with the ankles fixed at 90-degree angles, toes down, so that the body is horizontal. Your hands are wider than shoulder width, and your fingertips are parallel to your collarbone. Your feet are placed on the ball with the top of the foot (shoelaces) contacting the ball, and the toes are pointed.



2

**Action:** Lower your entire body by allowing the elbows to bend until your torso has dropped into a position where the chest is at the level of your hands. Return by extending the elbows and pushing into the ground, elevating the entire body simultaneously. From the top position, pull the ball forward by flexing your feet and drawing the toes and hips upward so that the torso is bent at the hips. Your toes are on top of the ball and both feet are at 90-degree angles. The upper body and head face downward. Return by dropping your hips and extending your toes until your body returns to horizontal.

**Movement Path:** The plane of your body rotates upward in an arc. Use your feet as a lever.



### **STABILIZE BY**

- Keeping your knees locked.
- Fixing your ankles in a stable position.
- Keeping your hips, abdominal muscles, and lower back rigid.

### **LOOK FOR**

- A single plane of movement, i.e., a straight line from head to ankle.

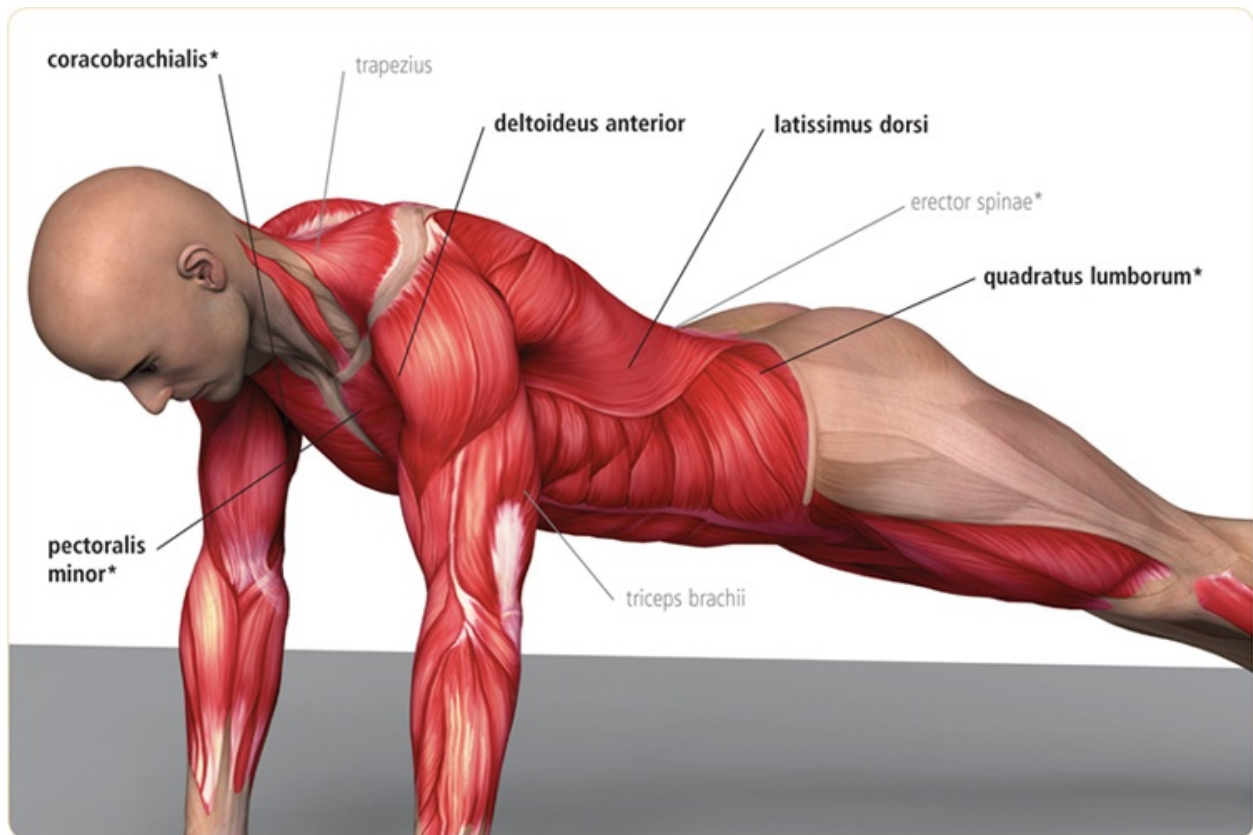
### **AVOID**

- A segmental elevation, i.e., your shoulders rising before your hips, or vice

versa.

- Elevating your shoulders toward your ears.
- Moving your head forward.
- Allowing the ankles to change position.
- Allowing the ball or body to migrate laterally.





### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- pectoralis major
- pectoralis minor
- coracobrachialis
- deltoideus anterior
- triceps brachii
- iliopsoas
- iliacus
- vastus lateralis
- vastus medialis

- **vastus intermedius**
- **rectus femoris**
- **transversus abdominis**
- **serratus anterior**
- **erector spinae**
- **trapezius**
- **latissimus dorsi**
- **quadratus lumborum**
- **adductor longus**
- **obliquus externus**
- **pectineus**

## LAYOUT ON RINGS

1

**Starting Position:** With your body rigid and at a 45-degree angle to the floor, grasp the rings directly under your shoulders with a palms-down grip, so that the rings are parallel and directly beneath the chest. The legs, hips, and spine form a straight line.

**Action:** Allowing the entire body to descend in a controlled manner with the arms straight, push the hands forward and outward, using the toes as a fulcrum. While descending, keep the hands parallel, allowing the body to descend until the arms are in a horizontal position. Return by pulling the arms back toward the floor until the body returns to the starting position.



2

**Movement Path:** The torso moves directly downward, and the hands move outward and upward on the descent, and inward on the ascent.



### **STABILIZE BY**

- Keeping shoulders down.
- Keeping your knees locked.
- Fixing your ankles in a stable position.
- Keeping your hips, abdominal muscles, and lower back rigid.

### **LOOK FOR**

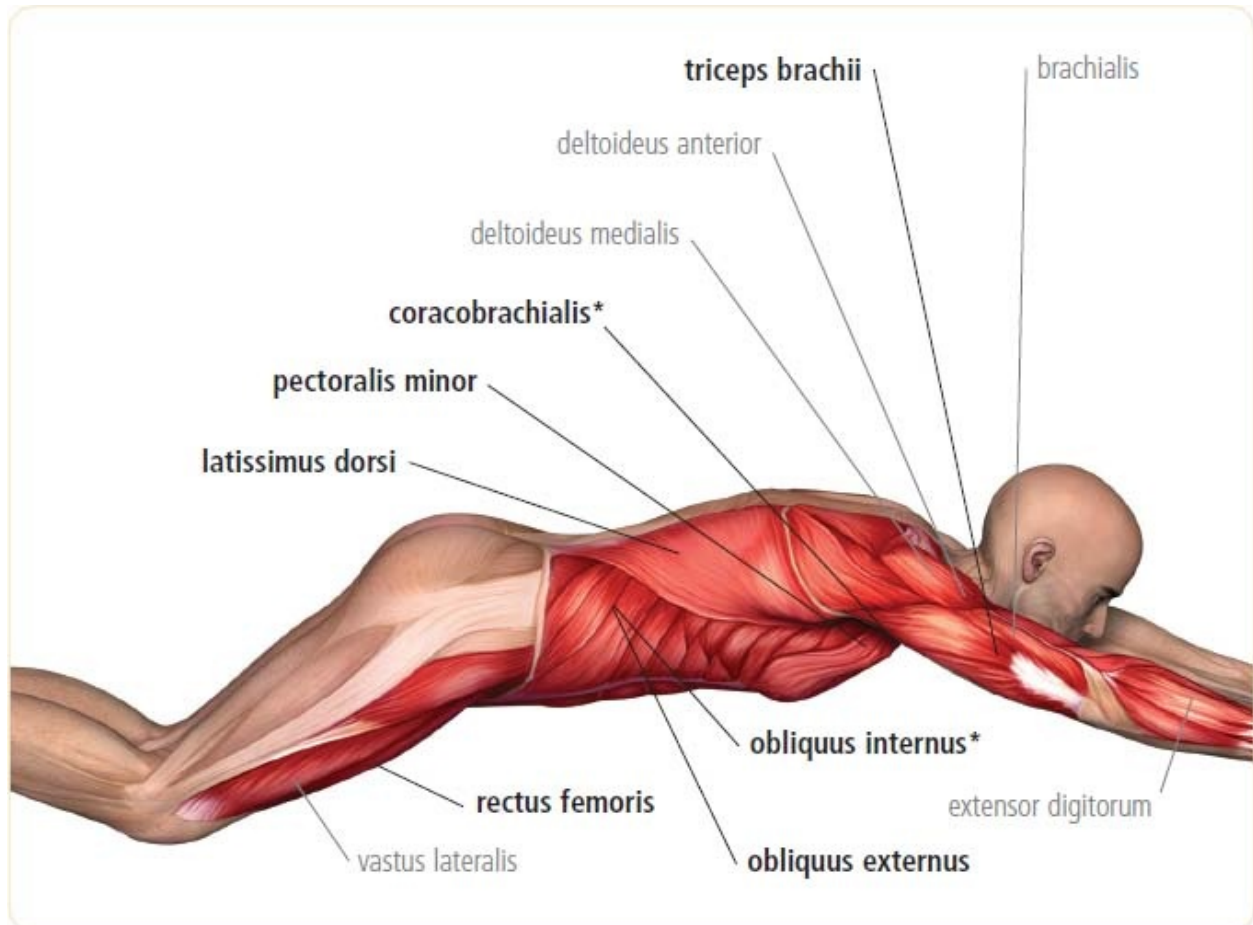
- Arms to remain straight and parallel.
- A single plane of movement, i.e., a straight line from head to ankle.

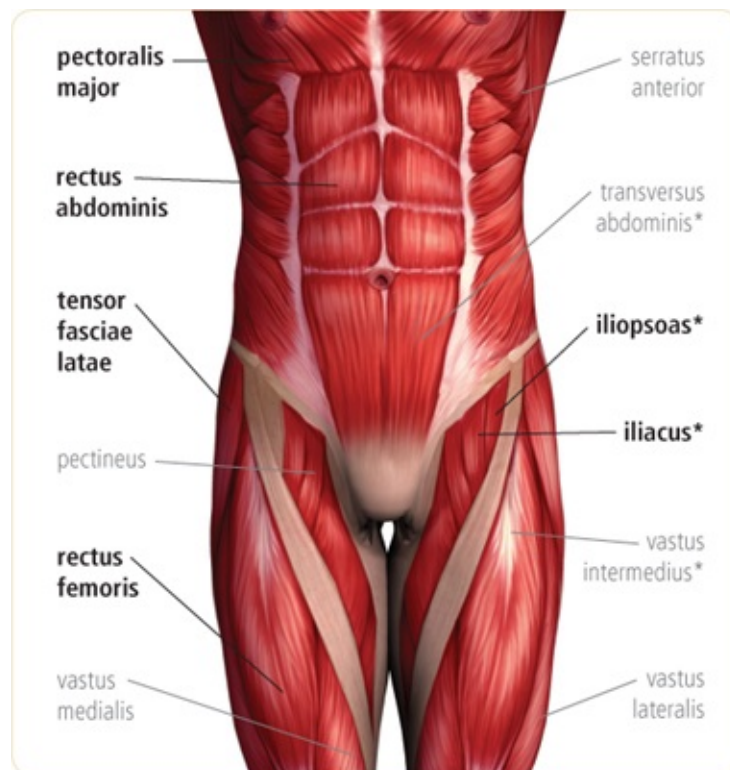
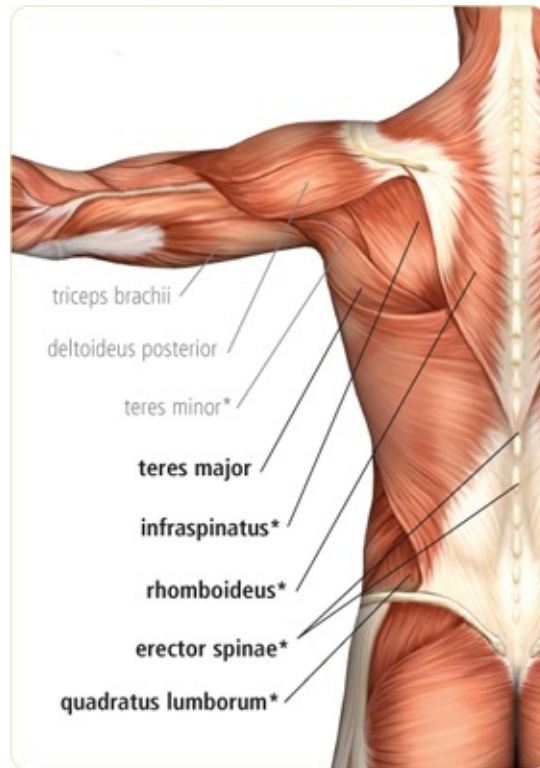
### **AVOID**

- Segmental elevation, i.e., your shoulders rising before your hips, or vice versa.



- Elevating your shoulders toward your ears.
- Moving your head forward.





#### ANNOTATION KEY

**Black text indicates active muscles**

Gray text indicates stabilizing muscles \* indicates deep muscles

## BEST FOR

- latissimus dorsi
- pectoralis major
- pectoralis minor
- coracobrachialis
- deltoideus
- rectus abdominis
- serratus anterior
- triceps brachii
- extensor digitorum
- iliopsoas
- iliacus
- pectineus
- vastus lateralis
- vastus medialis
- vastus intermedius
- rectus femoris
- tibialis anterior
- transversus abdominis
- serratus anterior
- erector spinae
- trapezius
- quadratus lumborum
- tensor fasciae latae
- erector spinae
- rhomboideus
- infraspinatus
- teres major

- **teres minor**
- **brachialis**
- **obliquus internus**
- **obliquus externus**

## PROGRAMS

The following pages contain twelve sample exercise programs: four beginner, four intermediate, and four advanced. Each program consists of two pages. Included are:

- Specific exercise groupings, or “workouts”

- A visual representation of each exercise to be performed, with its page reference
- The weeks in which the workouts are to be performed
- A Program box, detailing both the number of times per week and the workouts to be performed
- A Prescription box, giving weekly volume and rest periods for a given workout. Please note that the weight/progression category must be tailored to each individual, according to size and fitness level; therefore all weights for the first week of any program are designated “TBD” (to be determined).
- An Exercise Sequence box, showing the order of exercises for a given workout
- A Notes section, which gives basic information on how the program should be used
- Space for user notes

Below are the Legend and Programs Glossary boxes, defining the elements and nomenclature used in the programs section. Opposite is a master list that includes all twelve programs. On [page 135](#), there is a sample of how a workout may be logged.

Please remember that these workouts only address musculoskeletal conditioning. Warm-up, cardiovascular components, and flexibility are not addressed here. Before beginning any exercise program, you should always consult your physician.

### LEGEND

**Numbers** = Days per week

**Letters** = Specific workouts

**Roman numerals** = Programs or prescription  
**Level** = Subjective categorization of both exercises and workouts based on technical difficulty and complexity

## PROGRAMS GLOSSARY

**BW:** Body weight

**Exercise:** Specific movement from a given category 5

**Essentials:** Category or type of exercise **Programs:** Group of workouts

**Sequence:** Order in which the five ingredients are reinforced in a given workout **TBD:** To be determined

**Workout:** Group of exercises

|       | BEGINNER              |   |   |   |   | INTERMEDIATE           |   |   |   |   | ADVANCED              |   |   |   |   |
|-------|-----------------------|---|---|---|---|------------------------|---|---|---|---|-----------------------|---|---|---|---|
|       | Program I (6 weeks)   |   |   |   |   | Program II (8 weeks)   |   |   |   |   | Program III (8 weeks) |   |   |   |   |
| Weeks | Days                  |   |   |   |   | Days                   |   |   |   |   | Days                  |   |   |   |   |
|       | I                     | 2 |   |   |   | I                      | 2 |   |   |   | I                     | 2 |   |   |   |
| 1     | A                     | B |   |   |   | A                      | B |   |   |   | A                     | E |   |   |   |
| 2     | A                     | B |   |   |   | C                      | D |   |   |   | B                     | D |   |   |   |
| 3     | A                     | B |   |   |   | A                      | B |   |   |   | F                     | A |   |   |   |
| 4     | B                     | A |   |   |   | C                      | D |   |   |   | C                     | D |   |   |   |
| 5     | B                     | A |   |   |   | B                      | A |   |   |   | B                     | E |   |   |   |
| 6     | B                     | A |   |   |   | D                      | C |   |   |   | F                     | C |   |   |   |
| 7     |                       |   |   |   |   | B                      | A |   |   |   | D                     | F |   |   |   |
| 8     |                       |   |   |   |   | D                      | C |   |   |   | E                     | A |   |   |   |
|       | Program IV (6 weeks)  |   |   |   |   | Program V (6 weeks)    |   |   |   |   | Program VI (4 weeks)  |   |   |   |   |
| Weeks | Days                  |   |   |   |   | Days                   |   |   |   |   | Days                  |   |   |   |   |
|       | I                     | 2 | 3 |   |   | I                      | 2 | 3 |   |   | I                     | 2 | 3 |   |   |
| 1     | C                     | A | B |   |   | A                      | B | C |   |   | D                     | E | F |   |   |
| 2     | C                     | A | B |   |   | D                      | E | F |   |   | D                     | E | F |   |   |
| 3     | C                     | A | B |   |   | A                      | B | C |   |   | D                     | E | F |   |   |
| 4     | B                     | C | A |   |   | D                      | E | F |   |   | D                     | E | F |   |   |
| 5     | B                     | C | A |   |   | A                      | B | C |   |   |                       |   |   |   |   |
| 6     | B                     | C | A |   |   | D                      | E | F |   |   |                       |   |   |   |   |
|       | Program VII (4 weeks) |   |   |   |   | Program VIII (4 weeks) |   |   |   |   | Program IX (4 weeks)  |   |   |   |   |
| Weeks | Days                  |   |   |   |   | Days                   |   |   |   |   | Days                  |   |   |   |   |
|       | I                     | 2 | 3 | 4 |   | I                      | 2 | 3 | 4 |   | I                     | 2 | 3 | 4 |   |
| 1     | G                     | H | G | H |   | I                      | J | K | L |   | M                     | N | O | D |   |
| 2     | G                     | H | G | H |   | I                      | J | K | L |   | M                     | N | O | D |   |
| 3     | H                     | G | H | G |   | I                      | J | K | L |   | M                     | N | O | D |   |
| 4     | H                     | G | H | G |   | I                      | J | K | L |   | M                     | N | O | D |   |
|       | Program X (4 weeks)   |   |   |   |   | Program XI (4 weeks)   |   |   |   |   | Program XII (4 weeks) |   |   |   |   |
| Weeks | Days                  |   |   |   |   | Days                   |   |   |   |   | Days                  |   |   |   |   |
|       | I                     | 2 | 3 | 4 | 5 | I                      | 2 | 3 | 4 | 5 | I                     | 2 | 3 | 4 | 5 |
| 1     | Q                     | S | R | U | T | I                      | J | K | P | Z | V                     | W | X | Y | Z |
| 2     | Q                     | S | R | U | T | I                      | J | Z | K | P | V                     | W | X | Y | Z |
| 3     | Q                     | S | R | U | T | I                      | J | K | P | Z | V                     | W | X | Y | Z |
| 4     | Q                     | S | R | U | T | I                      | J | Z | P | K | V                     | W | X | Y | Z |

# PROGRAM I

## BEGINNER

### WORKOUTS

#### A WEEKS 1-3



Sumo with Kettlebell  
[page 18](#)



Basic Push-up  
[page 60](#)



Stationary Lunge  
[page 38](#)





45Degree Body Row  
[page 90](#)



Front Plank  
[page 126](#)

**B**  
**WEEKS 1-3**



Plow on Physio Ball  
[page 112](#)



Lateral Lunge  
[page 42](#)



Hand Walkover  
[page 78](#)



Full with Dumbbells  
[page 15](#)



StandPull  
[page 98](#)

**B**  
**WEEKS 4-6**



Hand Walkover  
[page 78](#)



Lateral Lunge  
[page 42](#)



Full with Dumbbells  
[page 15](#)



Plow on Physio Ball  
[page 112](#)



StandPull  
[page 98](#)

**A**  
**WEEKS 4–6**



Stationary Lunge  
[page 38](#)



Sumo with Kettlebell  
[page 18](#)



45Degree Body Row  
[page 90](#)



Basic Push-up  
[page 60](#)



Front Plank

page 126

## SAMPLE PROGRAM LOG

|   |                       | Week 1 |      |        |      | Week 2 |      |        |      | Week 3 |      |        |      | Week 4 |      |        |      |
|---|-----------------------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|
|   |                       | Sets   | Reps | Weight | Rest | Sets   | Reps | Weight | Rest | Sets   | Reps | Weight | Rest | Sets   | Reps | Weight | Rest |
| A | Sumo                  |        |      |        |      |        |      |        |      |        |      |        |      |        |      |        |      |
|   | Stationary            |        |      |        |      |        |      |        |      |        |      |        |      |        |      |        |      |
|   | Basic                 |        |      |        |      |        |      |        |      |        |      |        |      |        |      |        |      |
|   | 45-Degree<br>Body Row |        |      |        |      |        |      |        |      |        |      |        |      |        |      |        |      |
|   | Front<br>Plank        |        |      |        |      |        |      |        |      |        |      |        |      |        |      |        |      |

## PROGRAM: I DURATION: 6 WEEKS

|                                                                                          |   |      |   |
|------------------------------------------------------------------------------------------|---|------|---|
| <p>Days per week: 3</p> <p>Total weeks: 6</p> <p>Type: Intermediate</p> <p>Endurance</p> |   | Days |   |
|                                                                                          |   |      |   |
|                                                                                          |   | 1    | 2 |
|                                                                                          |   | A    | B |
|                                                                                          |   | 2    | A |
|                                                                                          |   | 3    | A |
|                                                                                          |   | 4    | B |
| Weeks                                                                                    | 6 | 5    | B |
|                                                                                          |   | 6    | B |
|                                                                                          |   |      |   |

## PRESCRIPTION

| Week | Sets | Repetitions | Weight/Progression         | Rest Set/Exercise |
|------|------|-------------|----------------------------|-------------------|
| 1    | 3    | 8           | TBD                        | :75 / :90         |
| 2    | 3    | 10          | Same as week 1             | :60 / :75         |
| 3    | 3    | 12          | Same as week 1             | :45 / :60         |
| 4    | 3    | 10          | Increase 10% BW (2–5 reps) | :60 / :90         |
| 5    | 3    | 8           | Increase 10% BW (2–5 reps) | :75 / :90         |
| 6    | 3    | 6           | Increase 10% BW (2–5 reps) | :75 / :90         |

## EXERCISE SEQUENCE

| Workout |          |          |          |          |
|---------|----------|----------|----------|----------|
|         | A        | B        | B        | A        |
| 1       | Deadlift | Ab Wheel | Push-up  | Lunge    |
| 2       | Push-up  | Lunge    | Lunge    | Deadlift |
| 3       | Lunge    | Push-up  | Deadlift | Chin-up  |
| 4       | Chin-up  | Deadlift | Ab Wheel | Push-up  |
| 5       | Ab Wheel | Chin-up  | Chin-up  | Ab Wheel |

**Notes:** In weeks 1–3 the exercise order remains consistent. In weeks 4–6 both the exercise sequence and workout schedule (workout B is done first) change.

# PROGRAM II

## INTERMEDIATE

### WORKOUTS

**A**  
WEEKS 1, 3, 5, 7



Stationary Lunge  
[page 38](#)



Front Plank  
[page 126](#)



45Degree Body Row  
[page 90](#)



Sumo with Kettlebell  
[page 18](#)



Basic Push-up  
[page 60](#)

**B**  
WEEKS 1, 3, 5, 7



Plow on Physio Ball  
[page 112](#)



Hand Walkover  
[page 78](#)





Full with Dumbbells  
[page 15](#)



Lateral Lunge  
[page 42](#)



StandPull  
[page 98](#)

**C**  
**WEEKS 2, 4, 6, 8**



Medicine Ball Raise  
[page 26](#)



Step Chin  
[page 100](#)



Up to Box  
[page 54](#)



Push-up on Kettlebells  
[page 76](#)



V-ups with Physio Ball  
[page 122](#)

**D**  
WEEKS 2, 4, 6, 8



On Physio Ball & Blocks  
[page 64](#)



Full with Barbell  
[page 14](#)



Horizontal Body Row  
[page 92](#)

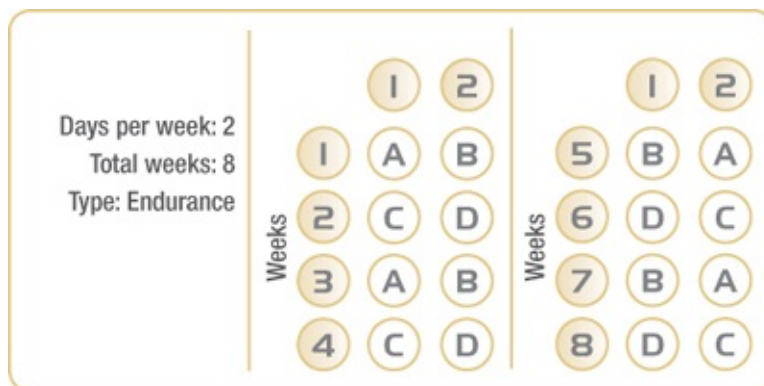


Walking with Rotation  
[page 40](#)



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## PROGRAM: II DURATION: 8 WEEKS



## PRESCRIPTION

| Week | Sets | Repetitions | Weight/Progression  | Rest Set/Exercise |
|------|------|-------------|---------------------|-------------------|
| 1    | 3    | 8           | TBD                 | :75 / :90         |
| 2    | 3    | 10          | Same                | :75 / :75         |
| 3    | 3    | 12          | Same                | :75 / :75         |
| 4    | 3    | 15          | Same                | :90 / :75         |
| 5    | 4    | 6           | Increase weight 10% | :75 / :90         |
| 6    | 4    | 8           | Same                | :75 / :90         |
| 7    | 4    | 10          | Same                | :75 / :90         |
| 8    | 4    | 12          | Same                | :90 / :90         |

## EXERCISE SEQUENCE

| Workout |          |          |          |          |
|---------|----------|----------|----------|----------|
|         | A        | B        | C        | D        |
| Order 1 | Lunge    | Ab Wheel | Deadlift | Push-up  |
| 2       | Ab Wheel | Push-up  | Chin-up  | Deadlift |
| 3       | Chin-up  | Deadlift | Lunge    | Chin-up  |
| 4       | Deadlift | Lunge    | Push-up  | Lunge    |
| 5       | Push-up  | Chin-up  | Ab Wheel | Ab Wheel |

**Notes:** There must be at least one day between workouts; two or three is optimal (e.g., Monday/Thursday or Tuesday/Friday).

# PROGRAM III

## ADVANCED

### WORKOUTS

**A**  
WEEKS 1, 3, 8



Sumo with Kettlebell  
[page 18](#)



Basic Push-up  
[page 60](#)



Front Plank  
[page 126](#)



45Degree Body Row  
[page 90](#)



Stationary Lunge  
[page 38](#)

**B**  
WEEKS 2, 5



StandPull  
[page 98](#)



Plow on Physio Ball  
[page 112](#)





Lateral Lunge  
[page 42](#)

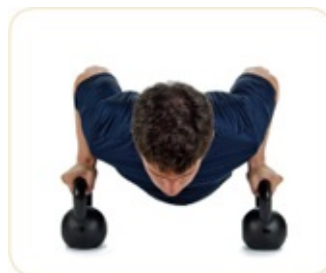


Full with Dumbbells  
[page 15](#)



Hand Walkover  
[page 78](#)

**C**  
**WEEKS 4, 6**



Push-up on Kettlebells  
[page 76](#)



Up to Box  
[page 54](#)



Medicine Ball Raise  
[page 26](#)



V-ups with Physio Ball  
[page 122](#)



Step Chin  
[page 100](#)

**D**  
WEEKS 2, 4, 7



Plank to Pike  
[page 128](#)



Full to Barbell  
[page 14](#)



On Physio Ball & Blocks  
[page 64](#)



Walking with Rotation  
[page 40](#)



Horizontal Body Row  
[page 92](#)

**E**  
WEEKS 1, 5, 8



Straight Leg with Dumbbell  
[page 22](#)



Plow with Rotation  
[page 114](#)



45Degree Towel Slide  
[page 44](#)



Pull-up Wide Grip  
[page 88](#)



Push-up & Roll-out  
[page 62](#)

**F**  
WEEKS 3, 6, 7



Off Box  
[page 56](#)



Basic Chin-up  
[page 86](#)



Hands on Rings  
[page 80](#)



Ab Wheel  
[page 110](#)



SingleLeg/StraightLeg with  
 Kettlebells [page 24](#)

## PROGRAM: III DURATION: 8 WEEKS

|                                                                                     |   |   |   |   |   |   |
|-------------------------------------------------------------------------------------|---|---|---|---|---|---|
| Days per week: 2<br>Total weeks: 8<br>Type: Advanced<br>Cardiovascular<br>Endurance |   |   |   |   |   |   |
|                                                                                     |   | I | 2 |   | I | 2 |
|                                                                                     | I | A | E | 5 | B | E |
|                                                                                     | 2 | B | D | 6 | F | C |
|                                                                                     | 3 | F | A | 7 | D | F |
|                                                                                     | 4 | C | D | 8 | E | A |

## PRESCRIPTION

| Week | Sets | Repetitions | Weight/Progression | Rest Set/Exercise |
|------|------|-------------|--------------------|-------------------|
| 1    | 5    | 6           | TBD                | :60 / 0           |
| 2    | 5    | 6           | Same               | :45 / 0           |
| 3    | 5    | 8           | Same               | :60 / 0           |
| 4    | 5    | 8           | Same               | :45 / 0           |
| 5    | 5    | 10          | Same               | :60 / 0           |
| 6    | 5    | 10          | Same               | :45 / 0           |
| 7    | 5    | 12          | Same               | :60 / 0           |
| 8    | 5    | 12          | same               | :45 / 0           |

## EXERCISE SEQUENCE

| Workout |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
|         | A        | B        | C        | D        | E        | F        |
| 1       | Deadlift | Chin-up  | Push-up  | Ab Wheel | Deadlift | Lunge    |
| 2       | Push-up  | Ab Wheel | Lunge    | Deadlift | Ab Wheel | Chin-up  |
| 3       | Ab Wheel | Lunge    | Deadlift | Push-up  | Lunge    | Push-up  |
| 4       | Chin-up  | Deadlift | Ab Wheel | Lunge    | Chin-up  | Ab Wheel |
| 5       | Lunge    | Push-up  | Chin-up  | Chin-up  | Push-up  | Deadlift |

**Notes:** Exercises in this program are to be done in "circuit" fashion. There is no rest between exercises. All five movements are to be done consecutively, with rest to be taken between rounds or groups.

# PROGRAM IV

## BEGINNER

### WORKOUTS

#### A WEEKS 1-6



Stationary Lunge  
[page 38](#)



45Degree Body Row  
[page 90](#)



Sumo with Kettlebell  
[page 18](#)





Basic Push-up  
[page 60](#)



Front Plank  
[page 126](#)

**B**  
**WEEKS 1-6**



Full with Dumbbells  
[page 15](#)



Hand Walkover  
[page 78](#)



Lateral Lunge  
[page 42](#)



StandPull  
[page 98](#)



Plow on Physio Ball  
[page 112](#)

**C**  
**WEEKS 1-6**



V-ups with Physio Ball  
[page 122](#)



Up to Box  
[page 54](#)



Push-up on Kettlebells  
[page 76](#)



Medicine Ball Raise  
[page 26](#)



Step Chin  
[page 100](#)

## USER NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.**PROGRAM: IV DURATION: 6 WEEKS**

|                                                                |  |      |   |   |   |
|----------------------------------------------------------------|--|------|---|---|---|
| Days per week: 3<br>Total weeks: 6<br>Type: Strength/Endurance |  | Days |   |   |   |
|                                                                |  |      | 1 | 2 | 3 |
|                                                                |  | 1    | C | A | B |
|                                                                |  | 2    | C | A | B |
|                                                                |  | 3    | C | A | B |
|                                                                |  | 4    | B | C | A |
|                                                                |  | 5    | B | C | A |
|                                                                |  | 6    | B | C | A |

## PRESCRIPTION

| Week | Sets | Repetitions | Weight/Progression       | Rest Set/Exercise |
|------|------|-------------|--------------------------|-------------------|
| 1    | 3    | 10          | TBD                      | :120 / :120       |
| 2    | 3    | 8           | Increase 10% BW 2–5 reps | :90 / :120        |
| 3    | 3    | 6           | Increase 10% BW 2–5 reps | :120 / :120       |
| 4    | 3    | 8           | Same as week 3           | :90 / :120        |
| 5    | 3    | 10          | Same as week 3           | :90 / :90         |
| 6    | 3    | 12          | Same as week 3           | :75 / :90         |

## EXERCISE SEQUENCE

|                                                                                                                                       |   | Workout  |          |          |
|---------------------------------------------------------------------------------------------------------------------------------------|---|----------|----------|----------|
|                                                                                                                                       |   | A        | B        | C        |
| Order                                                                                                                                 | 1 | Lunge    | Deadlift | Ab Wheel |
|                                                                                                                                       | 2 | Chin-up  | Push-up  | Lunge    |
|                                                                                                                                       | 3 | Deadlift | Lunge    | Push-up  |
|                                                                                                                                       | 4 | Push-up  | Chin-up  | Deadlift |
|                                                                                                                                       | 5 | Ab Wheel | Ab Wheel | Chin-up  |
| <b>Notes:</b> There must be at least one day between workouts. This program is optimally suited for Monday/Wednesday/Friday training. |   |          |          |          |

# PROGRAM V

## INTERMEDIATE

### WORKOUTS

**A**  
WEEKS 1, 3, 5



Sumo with Kettlebell  
[page 18](#)



Stationary Lunge  
[page 38](#)



Basic Push-up  
[page 60](#)



45Degree Body Row  
[page 90](#)



Front Plank  
[page 126](#)

**B**  
WEEKS 1, 3, 5



Lateral Lunge  
[page 42](#)



Hand Walkover  
[page 78](#)



Full with Dumbbells  
[page 15](#)

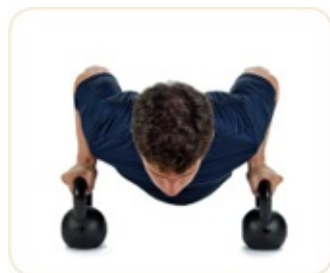


Plow on Physio Ball  
[page 112](#)



StandPull  
[page 98](#)

**C**  
**WEEKS 1, 3, 5**



Push-up on Kettlebells  
[page 76](#)





V-ups with Physio Ball  
[page 122](#)



Up to Box  
[page 54](#)



Step Chin  
[page 100](#)



Medicine Ball Raise  
[page 26](#)

**D**  
WEEKS 2, 4, 6



Full to Barbell  
[page 14](#)



Walking with Rotation  
[page 40](#)



On Physio Ball & Blocks  
[page 64](#)



Horizontal Body Row  
[page 92](#)



Plank to Pike  
[page 128](#)

**E**  
WEEKS 2, 4, 6



45Degree Towel Slide  
[page 44](#)



Push-up & Roll-out  
[page 62](#)



StraightLeg with Dumbbell  
[page 22](#)



Plow with Rotation  
[page 114](#)



Pull-up Wide Grip  
[page 88](#)

**F**  
WEEKS 2, 4, 6



Hands on Rings  
[page 80](#)



Ab Wheel  
[page 110](#)



Off Box  
[page 56](#)



Basic Chin-up  
[page 86](#)



Single-Leg/StraightLeg with  
Kettlebells [page 24](#)

**PROGRAM: V DURATION: 6 WEEKS**

|                                                                                          |  |      |   |   |   |
|------------------------------------------------------------------------------------------|--|------|---|---|---|
| <p>Days per week: 3</p> <p>Total weeks: 6</p> <p>Type: Intermediate</p> <p>Endurance</p> |  | Days |   |   |   |
|                                                                                          |  | 1    | 2 | 3 |   |
|                                                                                          |  | 1    | A | B | C |
|                                                                                          |  | 2    | D | E | F |
|                                                                                          |  | 3    | A | B | C |
|                                                                                          |  | 4    | D | E | F |
|                                                                                          |  | 5    | A | B | C |
|                                                                                          |  | 6    | D | E | F |

## PRESCRIPTION

| Week | Sets | Repetitions | Weight/Progression | Rest Set/Exercise |
|------|------|-------------|--------------------|-------------------|
| 1    | 3    | 10          | TBD                | :75 / :90         |
| 2    | 3    | 10          | TBD                | :60 / :75         |
| 3    | 4    | 8           | Same as week 1     | :60 / :75         |
| 4    | 4    | 8           | Same as week 2     | :60 / :75         |
| 5    | 4    | 10          | Same as week 3     | :60 / :60         |
| 6    | 4    | 10          | Same as week 4     | :60 / :60         |

## EXERCISE SEQUENCE

|       |   | Workout  |          |          |          |          |          |
|-------|---|----------|----------|----------|----------|----------|----------|
|       |   | A        | B        | C        | D        | E        | F        |
| Order | 1 | Deadlift | Lunge    | Push-up  | Deadlift | Lunge    | Push-up  |
|       | 2 | Lunge    | Push-up  | Ab Wheel | Lunge    | Push-up  | Ab Wheel |
|       | 3 | Push-up  | Deadlift | Lunge    | Push-up  | Deadlift | Lunge    |
|       | 4 | Chin-up  | Ab Wheel | Chin-up  | Chin-up  | Ab Wheel | Chin-up  |
|       | 5 | Ab Wheel | Chin-up  | Deadlift | Ab Wheel | Chin-up  | Deadlift |

**Notes:** Due to the volume and intensity of work, a two-day rest between workouts is acceptable, with variability from week to week depending on the body's ability to recover.

# PROGRAM VI

## ADVANCED

### WORKOUTS

#### D WEEKS 1–4



Walking with Rotation  
[page 40](#)



Full to Barbell  
[page 14](#)



Full with Barbell & Blocks  
[page 64](#)



Horizontal Body Row  
[page 92](#)



Plank to Pike  
[page 128](#)

**E**  
**WEEKS 1-4**



Pull-up Wide Grip  
[page 88](#)



45-Degree Towel Slide  
[page 44](#)





Push-up & Roll-out  
[page 62](#)



Plow with Rotation  
[page 114](#)



StraightLeg with Dumbbell  
[page 22](#)

**F**  
**WEEKS 1-4**



Hands on Rings  
[page 80](#)



Ab Wheel  
[page 110](#)



Off Box  
[page 56](#)



SingleLeg/StraightLeg with Kettlebells  
[page 24](#)



Basic Chin-up  
[page 86](#)

## USER NOTES

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|                                                                              |   |      |   |   |   |
|------------------------------------------------------------------------------|---|------|---|---|---|
| <p>Days per week: 3</p> <p>Total weeks: 4</p> <p>Type: Advanced Strength</p> |   | Days |   |   |   |
|                                                                              |   | 1    | 2 | 3 |   |
|                                                                              |   | 1    | D | E | F |
|                                                                              |   | 2    | D | E | F |
|                                                                              |   | 3    | D | E | F |
| Weeks                                                                        | 4 | D    | E | F |   |

## PRESCRIPTION

| Week | Sets | Repetitions | Weight/Progression            | Rest Set/Exercise |
|------|------|-------------|-------------------------------|-------------------|
| 1    | 5    | 10          | TBD                           | :90 / :120        |
| 2    | 5    | 8           | Up weight by 15% BW 5 reps    | :90 / :120        |
| 3    | 5    | 6           | Up weight 10–15% BW 5–10 reps | :120 / :120       |
| 4    | 5    | 10          | Same as week 1                | :90 / :90         |

## EXERCISE SEQUENCE

|                                                                                                                                                                                                |   | Workout  |          |          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----------|----------|----------|
|                                                                                                                                                                                                |   | D        | E        | F        |
| Order                                                                                                                                                                                          | 1 | Lunge    | Chin-up  | Push-up  |
|                                                                                                                                                                                                | 2 | Deadlift | Lunge    | Ab Wheel |
|                                                                                                                                                                                                | 3 | Push-up  | Push-up  | Lunge    |
|                                                                                                                                                                                                | 4 | Chin-up  | Ab Wheel | Deadlift |
|                                                                                                                                                                                                | 5 | Ab Wheel | Deadlift | Chin-up  |
| <b>Notes:</b> Due to the volume and intensity of these workouts, a two-day rest between workouts is acceptable, with variability from week to week depending on the body's ability to recover. |   |          |          |          |

# PROGRAM VII

## BEGINNER

### WORKOUTS

#### G WEEKS 1-2



Straight-Leg with Barbell  
[page 16](#)



Basic Push-up  
[page 60](#)



Full with Dumbbell  
[page 34](#)



Hand Walkover  
[page 78](#)



Sumo with Kettlebell  
[page 18](#)



Lower Body Rotation  
[page 72](#)

## H WEEKS 1-2



Stationary Lunge  
[page 38](#)



45Degree Body Row  
[page 90](#)



Front Plank  
[page 126](#)



Lateral Lunge  
[page 42](#)



Pull-up Neutral Grip  
[page 96](#)



V-ups with Physio Ball  
[page 122](#)

**H**  
WEEKS 3–4



Lateral Lunge  
[page 42](#)



V-ups with Physio Ball  
[page 122](#)



45Degree Body Row  
[page 90](#)





Pull-up Neutral Grip  
[page 96](#)



Front Plank  
[page 126](#)



Lateral Lunge  
[page 42](#)

## G WEEKS 3–4



Hand Walkover  
[page 78](#)



Sumo with Kettlebell  
[page 18](#)



Lower Body Rotation  
[page 72](#)



Straight-Leg with Barbell  
[page 16](#)



Basic Push-up  
[page 60](#)



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|       |   | Days |   |   |   |
|-------|---|------|---|---|---|
|       |   | 1    | 2 | 3 | 4 |
| Weeks | 1 | G    | H | G | H |
|       | 2 | G    | H | G | H |
|       | 3 | H    | G | H | G |
|       | 4 | H    | G | H | G |

## PRESCRIPTION

| Week | Sets | Repetitions | Weight/Progression                              | Rest Set/Exercise |
|------|------|-------------|-------------------------------------------------|-------------------|
| 1    | 2    | 10          | TBD                                             | None / :60        |
| 2    | 2    | 12          | Weights remain the same throughout the program. | None / :60        |
| 3    | 2    | 15          |                                                 | None / :60        |
| 4    | 2    | 20          |                                                 | None / :75        |

## EXERCISE SEQUENCE

| Workout |          |          |          |          |
|---------|----------|----------|----------|----------|
|         | G        | H        | H        | G        |
| Order 1 | Deadlift | Lunge    | Lunge    | Push-up  |
| 2       | Push-up  | Chin-up  | Ab Wheel | Deadlift |
| 3       | Deadlift | Ab Wheel | Chin-up  | Push-up  |
| 4       | Push-up  | Lunge    | Chin-up  | Deadlift |
| 5       | Deadlift | Chin-up  | Ab Wheel | Push-up  |
| 6       | Push-up  | Ab Wheel | Lunge    | Deadlift |

**Notes:** Exercises are to be performed in pairs, or "supersets." Complete three sets of the first two exercises, then three sets of the third and fourth exercises, and then finally move on to the fifth and sixth exercises.

# PROGRAM VIII

## INTERMEDIATE

### WORKOUTS

#### I WEEKS 1–4



Sumo with Kettlebell  
[page 18](#)



Straight-Leg Cable  
[page 30](#)



Full Single-Leg with Dumbbells  
[page 20](#)



Medicine Ball Raise  
[page 26](#)

**J**  
WEEKS 1–4



Towel Fly  
[page 68](#)



On Physio Ball & Blocks  
[page 65](#)



Lower Body Rotation  
[page 72](#)



Hand Walkover  
[page 78](#)

**K**  
WEEKS 1–4



Stationary with Barbell  
[page 39](#)



CrossBody Towel Slide  
[page 48](#)



Lateral Lunge  
[page 42](#)





Up to Box  
[page 54](#)

L  
WEEKS 1-4



Step Chin with Dumbbell  
[page 101](#)



V-ups with Physio Ball  
[page 122](#)



45Degree Body Row  
[page 90](#)



Bent Knee Hanging Raise with  
Medicine Ball [page 118](#)



Lateral Rope  
[page 94](#)



Ab Wheel  
[page 110](#)

## USER NOTES

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| Week | Sets | Repetitions | Weight/Progression           | Rest Set/Exercise |
|------|------|-------------|------------------------------|-------------------|
| 1    | 3    | 10          | 80–85% max                   | :90 / :90         |
| 2    | 3    | 8           | Increase weight 5%/BW 3 reps | :90 / :90         |
| 3    | 3    | 6           | Increase weight 5%/BW 3 reps | :90 / :90         |
| 4    | 3    | 10          | Original weight              | :90 / :90         |

## EXERCISE SEQUENCE

| Workout |          |         |       |                     |
|---------|----------|---------|-------|---------------------|
|         | I        | J       | K     | L                   |
| 1       | Deadlift | Push-up | Lunge | Chin-ups / Ab Wheel |
| 2       | Deadlift | Push-up | Lunge | Chin-ups / Ab Wheel |
| 3       | Deadlift | Push-up | Lunge | Chin-ups / Ab Wheel |
| 4       | Deadlift | Push-up | Lunge | Chin-ups / Ab Wheel |
| 5       |          |         |       | Chin-ups / Ab Wheel |
| 6       |          |         |       | Chin-ups / Ab Wheel |

**Notes:** This program is two days on, one off, two on, followed by a two-day rest. For body-weight exercises, reps should increase in weeks 2 and 3 until close to failure.

# PROGRAM IX

## ADVANCED

### WORKOUTS

#### M WEEKS 1–4



Walking with Rotation  
[page 40](#)



Pike & Press  
[page 70](#)



Reverse with Overhead  
Kettlebell [page 52](#)



Clap  
[page 74](#)



Off Box  
[page 56](#)



Towel Fly  
[page 68](#)

N  
WEEKS 1–4



SingleLeg/Straight-Leg with  
Kettlebell [page 24](#)



Lateral Rope  
[page 94](#)



Full Cable with Rotation  
[page 28](#)



Rope Chins  
[page 107](#)



Bag Flip  
[page 32](#)



Drop & Pull  
[page 104](#)

**O**  
WEEKS 1-4



Front Plank  
[page 126](#)



Plow with Rotation  
[page 114](#)



Pike to Plank  
[page 128](#)



Straight-Leg Hanging Raise  
[page 116](#)





Hand Walkout  
[page 124](#)

**D**  
WEEKS 1–4



Full to Barbell  
[page 14](#)



Walking with Rotation  
[page 40](#)



On Physio Ball & Blocks  
[page 64](#)



Horizontal Body Row  
page 92

page 92



Plank to Pike  
page 128

page 128

## USER NOTES

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## PROGRAM: IX DURATION: 4 WEEKS

|       |   |      |   |   |   |
|-------|---|------|---|---|---|
|       |   | Days |   |   |   |
|       |   | 1    | 2 | 3 | 4 |
| Weeks | 1 | M    | N | O | D |
|       | 2 | M    | N | O | D |
|       | 3 | M    | N | O | D |
|       | 4 | M    | N | O | D |

Days per week: 4

Total weeks: 4

Type: Advanced

## PRESCRIPTION

| Week | Sets | Repetitions | Weight/Progression | Rest Set/Exercise |
|------|------|-------------|--------------------|-------------------|
| 1    | 3    | 8           | TBD                | :75 / :75         |
| 2    | 3    | 10          | Same               | :75 / :75         |
| 3    | 4    | 8           | Same               | :75 / :75         |
| 4    | 4    | 10          | Same               | :75 / :75         |

## EXERCISE SEQUENCE

| Workout |         |          |          |          |
|---------|---------|----------|----------|----------|
|         | M       | N        | O        | D        |
| Order 1 | Lunge   | Deadlift | Ab Wheel | Deadlift |
| 2       | Push-up | Chin-up  | Ab Wheel | Lunge    |
| 3       | Lunge   | Deadlift | Ab Wheel | Push-up  |
| 4       | Push-up | Chin-up  | Ab Wheel | Chin-up  |
| 5       | Lunge   | Deadlift | Ab Wheel | Ab Wheel |
| 6       | Push-up | Chin-up  |          |          |

**Notes:** This sequence is three days on, one or two days off. There are two days that are split, one Ab Wheel-only day and one full-body day. The days before and after full body must be rest days.

# PROGRAM X

## BEGINNER

### WORKOUTS

#### Q WEEKS 1–4



Full to Barbell  
[page 14](#)



Full Single-Leg with Dumbbells  
[page 20](#)



StraightLeg with Dumbbells  
[page 22](#)

**R**  
**WEEKS 1–4**



Backward Towel Slide  
[page 46](#)



Lateral Lunge  
[page 42](#)



45Degree Towel Slide  
[page 44](#)

**S**  
**WEEKS 1–4**



Towel Fly  
[page 68](#)



Lower Body Rotation  
[page 72](#)



Hand Walkover  
[page 78](#)

**T**  
**WEEKS 1-4**



StandPull  
[page 98](#)



45Degree Body Row  
[page 90](#)



Vertical Rope with Alternate Grip  
[page 102](#)

U  
WEEKS 1–4



Front Plank  
[page 126](#)





Hand Walkout  
page 124



V-ups with Physio Ball  
page 122

**PROGRAM: X DURATION: 4 WEEKS**

|       |   | Days |   |   |   |   |
|-------|---|------|---|---|---|---|
|       |   | 1    | 2 | 3 | 4 | 5 |
| Weeks | 1 | Q    | S | R | U | T |
|       | 2 | Q    | S | R | U | T |
|       | 3 | Q    | S | R | U | T |
|       | 4 | Q    | S | R | U | T |

Days per week: 3  
Total weeks: 4  
Type: Beginner  
General Conditioning

**PRESCRIPTION**

| Week | Sets | Repetitions | Weight/Progression | Rest Set/Exercise |
|------|------|-------------|--------------------|-------------------|
| 1    | 3    | 6           | TBD                | :75 / :90         |
| 2    | 3    | 8           | Same               | :75 / :75         |
| 3    | 3    | 10          | Same               | :75 / :75         |
| 4    | 3    | 12          | Same               | :75 / :90         |

**EXERCISE SEQUENCE**

|         | Workout  |       |         |         |          |
|---------|----------|-------|---------|---------|----------|
|         | Q        | R     | S       | T       | U        |
| Order 1 | Deadlift | Lunge | Push-up | Chin-up | Ab Wheel |
| Order 2 | Deadlift | Lunge | Push-up | Chin-up | Ab Wheel |
| Order 3 | Deadlift | Lunge | Push-up | Chin-up | Ab Wheel |

**Notes:** The exercise sequence should be completely rearranged for every workout in weeks 3 and 4.

# PROGRAM XI

## INTERMEDIATE

### WORKOUTS

#### I WEEKS 1–4



Sumo with Two Kettlebells  
[page 19](#)



Straight-Leg Cable  
[page 30](#)



Full Single-Leg with Dumbbells  
[page 20](#)



Medicine Ball Raise  
[page 26](#)

**J**  
**WEEKS 1–4**



Towel Fly  
[page 68](#)



On Physio Ball & Blocks  
[page 65](#)



Lower Body Rotation  
[page 72](#)



Hand Walkover  
[page 78](#)

**K**  
WEEKS 1–4



Stationary with Barbell  
[page 39](#)



CrossBody Towel Slide  
[page 48](#)



Lateral Lunge  
[page 42](#)



Lunge Up to Box  
[page 54](#)

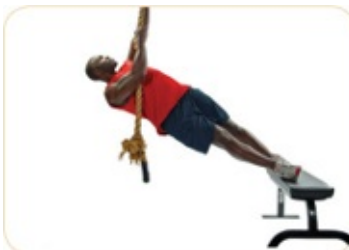
**P**  
WEEKS 1–4



Basic Chin-up  
[page 82](#)



Vertical Rope  
[page 102](#)



Lateral Rope  
[page 94](#)



Horizontal Body Row  
[page 92](#)

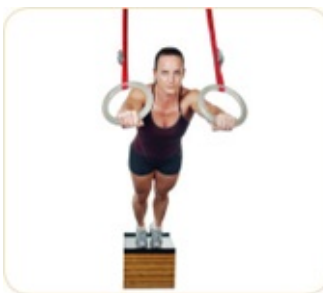
Z  
WEEKS 1-4



Ab Wheel  
[page 110](#)



Plank to Pike  
[page 128](#)



Layout on Rings  
[page 130](#)



Plow with Rotation  
[page 114](#)



Hanging Raise with Rotation  
[page 120](#)

## PROGRAM: XI DURATION: 4 WEEKS

|                                                                  |       |      |   |   |   |   |   |
|------------------------------------------------------------------|-------|------|---|---|---|---|---|
|                                                                  |       | Days |   |   |   |   |   |
|                                                                  |       | 1    | 2 | 3 | 4 | 5 |   |
| Days per week: 5<br>Total weeks: 4<br>Type: Advanced<br>Strength | Weeks | 1    | I | J | K | P | Z |
|                                                                  | 2     | I    | J | Z | K | P |   |
|                                                                  | 3     | I    | J | K | P | Z |   |
|                                                                  | 4     | I    | J | Z | P | K |   |

## PRESCRIPTION



| Week | Sets | Repetitions | Weight/Progression                | Rest Set/Exercise |
|------|------|-------------|-----------------------------------|-------------------|
| 1    | 4    | 8           | TBD                               | :120 / :120       |
| 2    | 4    | 8           | Increase weight 10% BW (2–5) reps | :120 / :120       |
| 3    | 4    | 8           | Increase weight 15% BW (2–5) reps | :120 / :120       |
| 4    | 4    | 8           | Increase weight 10% BW (2–5) reps | :120 / :180       |

## EXERCISE SEQUENCE

|       |   | Workout  |         |       |         |          |
|-------|---|----------|---------|-------|---------|----------|
|       |   | I        | J       | K     | P       | Z        |
| Order | 1 | Deadlift | Push-up | Lunge | Chin-up | Ab Wheel |
|       | 2 | Deadlift | Push-up | Lunge | Chin-up | Ab Wheel |
|       | 3 | Deadlift | Push-up | Lunge | Chin-up | Ab Wheel |
|       | 4 | Deadlift | Push-up | Lunge | Chin-up | Ab Wheel |
|       | 5 |          |         |       |         | Ab Wheel |

**Notes:** For all workouts in this program, the sequence of a given day should never be the same.

# PROGRAM XII

## ADVANCED

### WORKOUTS

#### V WEEKS 1–4



Medicine Ball Raise  
[page 26](#)



Full with Barbell  
[page 14](#)



Bag Flip  
[page 32](#)



StraightLeg with Dumbbell  
[page 22](#)



Sumo off Block  
[page 19](#)

W  
WEEKS 1-4



Reverse Barbell Slide  
[page 50](#)



CrossBody Towel Slide  
[page 48](#)



45Degree Towel Slide  
[page 44](#)



Up to Box  
[page 54](#)



Lateral Lunge  
[page 42](#)

X  
WEEKS 1-4



Hands on Rings  
[page 80](#)



Pike & Press  
page 70



Single Arm Forward Slide  
page 82



Clap  
page 74



On Dumbbells with Rotation  
page 64

Y  
WEEKS 1-4



Basic Chin-up  
[page 86](#)



Horizontal Body Row  
[page 92](#)



Drop & Pull  
[page 104](#)



Step Chin with Dumbbell  
[Page 101](#)



45Degree Body Row  
[page 90](#)

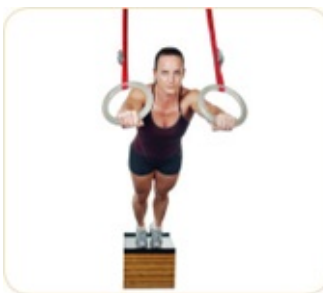
Z  
WEEKS 1-4



Ab Wheel  
[page 110](#)



Plank to Pike  
[page 128](#)



Layout on Rings  
[page 130](#)



Plow with Rotation  
[page 114](#)



Hanging Raise with Rotation  
[page 120](#)

## PROGRAM: XI DURATION: 4 WEEKS

|       |   | Days |   |   |   |   |
|-------|---|------|---|---|---|---|
|       |   | 1    | 2 | 3 | 4 | 5 |
| Weeks | 1 | V    | W | X | Y | Z |
|       | 2 | V    | W | X | Y | Z |
|       | 3 | V    | W | X | Y | Z |
|       | 4 | V    | W | X | Y | Z |

## PRESCRIPTION



| Week | Sets | Repetitions | Weight/Progression                              | Rest Set/Exercise |
|------|------|-------------|-------------------------------------------------|-------------------|
| 1    | 5    | 6           | TBD                                             | :75 / :75         |
| 2    | 5    | 8           | Weight remains the same throughout the program. | :75 / :90         |
| 3    | 5    | 10          |                                                 | :90 / :90         |
| 4    | 5    | 12          |                                                 | :90 / :90         |

## EXERCISE SEQUENCE

| Workout |          |       |         |         |          |
|---------|----------|-------|---------|---------|----------|
|         | V        | W     | X       | Y       | Z        |
| Order 1 | Deadlift | Lunge | Push-up | Chin-up | Ab Wheel |
| 2       | Deadlift | Lunge | Push-up | Chin-up | Ab Wheel |
| 3       | Deadlift | Lunge | Push-up | Chin-up | Ab Wheel |
| 4       | Deadlift | Lunge | Push-up | Chin-up | Ab Wheel |
| 5       | Deadlift | Lunge | Push-up | Chin-up | Ab Wheel |

**Notes:** In this section, training occurs five times per week, so exercises are grouped to one of the 5 Essentials per day, five exercises per Essential. It is not recommended to change the entire order of each group, week to week; however, it is suggested to change the order of two exercises per day, on a weekly basis.

# GLOSSARY

**abduction.** Movement away from the body.

**adduction.** Movement toward the body.

**alternating grip.** One hand grasping with the palm facing toward the body and the other facing away.

**anterior.** Located in the front.

**concentric** (contraction). Occurs when a muscle shortens in length and develops tension, e.g., the upward movement of a dumbbell in a biceps curl.

**curvilinear** (movement path). Moving in a curved path.

**dynamic.** Continuously moving.

**eccentric** (contraction). The development of tension while a muscle is being lengthened, e.g., the downward movement of a dumbbell in a biceps curl.

**extension.** The act of straightening.

**flexion.** The bending of a joint.

**iliotibial band (ITB).** A thick band of fibrous tissue that runs down the outside of the leg, beginning at the hip and extending to the outer side of the tibia just below the knee joint. The band functions in coordination with several of the thigh muscles to provide stability to the outside of the knee joint.

**isometric.** Muscles contracting against an equal resistance, resulting in no movement.

**lateral.** Located on, or extending toward, the outside.

**lordosis.** Forward curvature of the spine and lumbar region.

**medial.** Located on, or extending toward, the middle.

**neutral position** (spine). A spinal position resembling an “S” shape, consisting of a lordosis in the lower back, when viewed in profile.

**posterior.** Located behind.

**proprioceptive neuromuscular facilitation (PNF).** Refers to a neuromuscular pattern of contraction that utilizes the greatest efficiency regarding positional awareness.

**scapula.** The protrusion of bone on the mid to upper back, also known as the shoulder blade.

**static.** No movement; holding a given position.

## LATIN TERMINOLOGY

*The following glossary explains the Latin terminology used to describe the body’s musculature. Certain words are derived from Greek, which has been indicated in each instance.*

### NECK

**scalenus.** Greek *skalénós*, “unequal”

**splenius.** Greek *splénion*, “plaster, patch”

**sternocleidomastoid.** Greek *stérnon*, “chest,” Greek *kleís*, “key,” and Greek *mastoeidés*, “breastlike”

### CHEST

**coracobrachialis.** Greek *korakoeidés*, “ravenlike,” and *brachium*, “arm”

**pectoralis (major and minor).** *pectus*, “breast”

## SHOULDERS

**deltoideus (anterior, medial, and posterior).** Greek *deltoeidés*, “delta-shaped”

**infraspinatus.** *infra*, “under,” and *spina*, “thorn”

**levator scapulae.** *levare*, “to raise,” and *scapulae*, “shoulder [blades]”

**subscapularis.** *sub*, “below,” and *scapulae*, “shoulder [blades]”

**supraspinatus.** *supra*, “above,” and *spina*, “thorn”

**teres (major and minor).** *teres*, “rounded”

## UPPER ARM

**biceps brachii.** *biceps*, “two-headed,” and *brachium*, “arm”

**brachialis.** *brachium*, “arm”

**triceps brachii.** *triceps*, “three-headed,” and *brachium*, “arm”

## LOWER ARM

**brachioradialis.** *brachium*, “arm,” and *radius*, “spoke”

**extensor carpi radialis.** *extendere*, “to extend,” Greek *karpós*, “wrist,” and *radius*, “spoke”

**extensor digitorum.** *extendere*, “to extend,” and *digitus*, “finger, toe”

**flexor carpi radialis.** *flectere*, “to bend,” Greek *karpós*, “wrist,” and *radius*, “spoke”

**flexor digitorum.** *flectere*, “to bend,” and *digitus*, “finger, toe”

## CORE

**obliquus externus.** *obliquus*, “slanting,” and *externus*, “outward”

**obliquus internus.** *obliquus*, “slanting,” and *internus*, “within”

**rectus abdominis.** *rego*, “straight, upright,” and *abdomen*, “belly”

**serratus anterior.** *serra*, “saw,” and *ante*, “before”

**transversus abdominis.** *transversus*, “athwart,” and *abdomen*, “belly”

## BACK

**erector spinae.** *erectus*, “straight,” and *spina*, “thorn”

**latissimus dorsi.** *latus*, “wide,” and *dorsum*, “back”

**quadratus lumborum.** *quadratus*, “square, rectangular,” and *lumbus*, “loin”

**rhomboideus.** Greek *rhembesthai*, “to spin”

**trapezius.** Greek *trapezion*, “small table”

## HIPS

**gemellus (inferior and superior).** *geminus*, “twin”

**gluteus maximus.** Greek *gloutós*, “rump,” and *maximus*, “largest”

**gluteus medius.** Greek *gloutós*, “rump,” and *medialis*, “middle”

**gluteus minimus.** Greek *gloutós*, “rump,” and *minimus*, “smallest”

**iliopsoas.** *ilium*, “groin,” and Greek *psoa*, “groin muscle”

**iliacus.** *ilium*, “groin”

**obturator externus.** *obturare*, “to block,” and *externus*, “outward”

**obturator internus.** *obturare*, “to block,” and *internus*, “within”

**pectineus.** *pectin*, “comb”

**piriformis.** *pirum*, “pear,” and *forma*, “shape”

**quadratus femoris.** *quadratus*, “square, rectangular,” and *femur*, “thigh”

## UPPER LEG

**adductor longus.** *adducere*, “to contract,” and *longus*, “long”

**adductor magnus.** *adducere*, “to contract,” and *magnus*, “major”

**biceps femoris.** *biceps*, “two-headed,” and *femur*, “thigh”

**gracilis.** *gracilis*, “slim, slender”

**rectus femoris.** *rego*, “straight, upright,” and *femur*, “thigh”

**sartorius.** *sarcio*, “to patch” or “to repair”

**semimembranosus.** *semi*, “half,” and *membrum*, “limb”

**semitendinosus.** *semi*, “half,” and *tendo*, “tendon”

**tensor fasciae latae.** *tenere*, “to stretch,” *fasciae*, “band,” and *latae*, “laid down”

**vastus intermedius.** *vastus*, “immense, huge,” and *intermedius*, “between”

**vastus lateralis.** *vastus*, “immense, huge,” and *lateralis*, “side”

**vastus medialis.** *vastus*, “immense, huge,” and *medialis*, “middle”

## LOWER LEG

**extensor hallucis.** *extendere*, “to extend,” and *hallex*, “big toe”

**flexor hallucis.** *flectere*, “to bend,” and *hallex*, “big toe”

**gastrocnemius.** Greek *gastroknémia*, “calf [of the leg]”

**peroneus.** *peronei*, “of the fibula”

**soleus.** *solea*, “sandal”

**tibialis anterior.** *tibia*, “reed pipe,” and *ante*, “before”

**tibialis posterior.** *tibia*, “reed pipe,” and *posterus*, “coming after”

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