

# TRIATHLON STRENGTH & CONDITIONING GUIDE

Essential exercises for strength, core stability and flexibility.

By Phil Mosley



# Strength and Conditioning for Triathletes

## Using This Guide

Your training plan in TrainingPeaks includes one or two Strength workouts per week. Simply click on those Strength workouts to see which exercises you should do on a given day. Then refer back to this PDF when you need guidance on how to perform each exercise.

### Exercise Instruction

This guide provides written descriptions of each exercise, which muscles you are targeting and why, tips, how to progress and some alternatives that provide similar purpose. You will find useful videos and images that show you what you need to do. You can adapt and progress sessions gradually according to your training equipment, skill and experience. If you are not sure about anything you can always [email us](#).

### Why Do Strength And Conditioning?

We have chosen specific strength and flexibility exercises that are key to supporting your swim, bike and run training. They are designed to increase power, range of movement, coordination, flexibility, agility, strength and stability providing you with a solid internal 'scaffold' to support all aspects of your training. You will improve your efficiency which will boost your performance.

### Injury Prevention

Including strength and conditioning to your training regime will help minimize the risks of injury through improved strength, stability and by matching imbalances that can be created by repetitive overuse.

### What Equipment Do I Need?

All exercises (or alternatives) can be done at home with a mat, dumbbells and/or band. You can also carry out the exercises in the gym using machines (where given as an alternative) and/or the free weights area.

### When Should I Do Strength Workouts?

There are two strength workouts per week, scheduled in your training plan. Performing both sessions is ideal, however if you are time challenged then one session is fine. If you have another workout scheduled on your strength day you should do the triathlon specific discipline first. When switching things around in your calendar be conscious of workouts that follow your strength sessions. Don't leave yourself too tired or sore to complete key sessions. For example, avoid a hard leg session before a speed run.

### How Will Strength Sessions Fit With My Triathlon Plan?

The strength sessions within your plan progress with each phase of training:

- **Prep Phase:** The goal of this phase is to develop neuromuscular efficiency, stability and functional strength.
- **Base Phase:** In the base phase your strength workouts are designed to build a foundation that can be used for power development. The goal is to translate strength training into sport-specific activity.
- **Build Phase:** During the build phase, your workouts are used to develop power, balance and neuromuscular control. Form is key, reduce the intensity if you cannot hold your form.
- **Peak Phase:** This phase allows you to focus on sport-specific training. This means decreasing the stress of a strength and conditioning training session by reducing intensity and volume.

### Flexibility

There are six key flexibility exercises included. You will see that the workout description allows for you to choose stretches. These stretches should be included post training as well as the dedicated time described within the strength and conditioning session. Select stretches that are specific to your requirements, the ones described within this document are a guide. You may have some favorites that work well for you.

# Strength and Conditioning for Triathletes

## 1. SQUAT

**Works:** Glutes, hamstrings and quads.

**Why:** Generates strength, power and stability for pedaling and running.

1. Stand with your feet shoulder-width apart and pointing straight ahead, arms at your sides.
2. Initiating the move with your hips, squat back and down until your thighs are parallel to the floor.
3. Return to a standing position by pushing through your hips.

**Tips:** Keep your chest up, back flat, and do not let your knees collapse to the inside.

**Progressions:** Add weights, squat jumps.

**Alternatives:** Smith machine, leg press machine, goblet squat.



## 2. SQUAT JUMP

**Works:** Glutes, hamstrings and quads.

**Why:** Boosts explosive power, for running and cycling.

1. Stand with feet just outside of shoulders.
2. Sit back and down into squat position, keeping knees behind toes.
3. Immediately jump vertically by extending through hips and swinging arms for propulsion.
4. Land softly in squat position with hips back and down. Immediately repeat the same movement.

**Tips:** Keep chest up during the jump. Extend hips completely during jump.

**Progressions:** Increase reps, reduce rests.

**Alternatives:** Any low impact weighted squat variations, leg press, box jumps.



## Strength and Conditioning for Triathletes

### 3. SINGLE LEG SQUAT

**Works:** Glutes, hips, hamstrings, calves and quads.

**Why:** Strengthen your force producing muscles and improve power for the run and bike.

1. Stand on one foot with your other leg bent at the knee.
2. Once you're balanced on one leg, squat down as low as you can without losing your form (or toppling over). Don't let your standing knee go past the front of your toes while you squat.
3. Pause at the bottom of the squat for a second, then push back up through your heel, squeezing your glutes as you go.

**Tips:** Hold both arms out in front of you during the exercise to help keep your balance.

**Progression:** Hold raised leg straight out in front (pistol squat), increase reps.

**Alternatives:** Bulgarian squat, alternate lunges.



### 4. BULGARIAN SQUAT

**Works:** Glutes, hamstrings and quads.

**Why:** Strength, balance and core control.

1. Find yourself anything stable that you can rest a foot on, it needs to be about knee height.
2. Get into a forward lunge position with torso upright, core braced and hips square to your body, with your back foot elevated on bench. Your leading leg should be about half a metre in front.
3. Lower until your front thigh is almost horizontal, keeping your knee in line with your foot.
4. Drive up through your front heel back to the starting position, keep your movements measured. Repeat your reps on one leg before switching sides.

**Tips:** Don't let your front knee travel beyond your toes. Keep your torso upright.

**Progressions:** Add weight, increase reps, reduce rest.

**Alternatives:** Single leg squat, pistol squat, single leg press.



## Strength and Conditioning for Triathletes

### 5. ALTERNATE LUNGE

**Works:** Glutes and quads

**Why:** Increase strength, power and stability for pedaling and running

1. Start with your feet about shoulder width apart, standing tall with your core engaged.
2. Step forward into lunge and lower until you reach approx. 90 degrees at both knees.
3. Push your body back up to the starting position through your front heel, switch legs and repeat. 1 right and 1 left is one rep.

**Tips:** Don't extend the front knee past your toes. Keep your torso upright.

**Progression:** Add weight, increase reps, reduce rest, make this exercise dynamic by adding jump switch.

**Alternatives:** Squats, leg press, step ups, reverse lunges



### 6. REVERSE LUNGE

**Works:** Glutes, hamstrings, calves and quads.

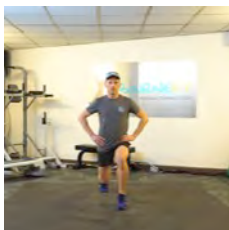
**Why:** Driving back to the starting position mimics the running movement.

1. Stand upright, core tight.
2. Take a big step backwards with your left foot and lower until both knees are at 90 degrees.
3. Push back up and return to starting position. Repeat with right leg. This is one rep.

**Tips:** Keep your torso upright and focus to stay balanced.

**Progression:** Add weight, increase reps, reduce rest.

**Alternatives:** Alternate lunges, step ups, squats, leg press.



## Strength and Conditioning for Triathletes

### 7. STEP UP

**Works:** Quads and hamstrings.

**Why:** Build leg strength, power, flexibility and cardiovascular abilities.

1. Stand facing the step or box.
2. Place right foot on the step and stand up onto the step by extending the hip and knee of the raised right leg. Place both feet onto the platform.
3. Step back down with the left leg. Switch sides and repeat with left leg leading. This is one rep.

**Tips:** Keep your chest up throughout the movement.

**Progression:** Add weight (dumbbells, weight vest or barbell), heighten step, add power by adding a hop as you step up.

**Alternatives:** Alternate lunges, reverse lunges.



### 8. CALF RAISE

**Works:** Calves.

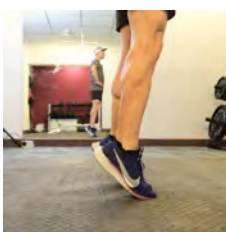
**Why:** Improve strength and stability, power the push off in running and prevent injury.

1. Stand tall, core engaged.
2. Push through the balls of your feet and raise your heel until you are standing on your toes.
3. Slowly lower to return to your starting position.

**Tips:** Don't rush!

**Progression:** Add weight (hold dumbbells), perform on a step to enable you to drop the heel lower.

**Alternative:** Farmer's walk on toes (walk holding dumbbells on toes).



## Strength and Conditioning for Triathletes

### 9. HIGH KNEES

**Works:** Cardio, glutes, hamstrings and quads.

**Why:** A cardio exercise that improves power, stability, flexibility and running form.

1. Begin standing tall, core engaged and ready to jog in place.
2. Flex the hip and bring your right knee towards your belly button, aim for your thigh to be parallel with the floor. As the right leg comes down lift the left knee. 1 right plus 1 left is 1 rep.

**Tips:** Pump your arms. Stay dynamic and strong throughout. Keep your knees high.

**Progression:** Increase duration.

**Alternatives:** Step up with hop, skipping with rope, jump squats.



### 10. BOX JUMP

**Works:** Quads, calves and hamstrings.

**Why:** Explosive lower body power for strength and speed.

1. Stand in front of the box with feet directly under the hips, hands by your side.
2. Bend your knees and hips. Explosively jump up from the crouched position, swing your arms to help.
3. Land softly on the center of the box, absorbing impact with your legs.
4. Stand tall. Jump or step back to the starting position. Repeat.

**Tips:** When starting out choose a low box or step, stop when your form and speed are compromised.

**Progression:** Use a higher box/platform.

**Alternatives:** Squat jumps, step ups.



## Strength and Conditioning for Triathletes

### 11. LATERAL & FRONT RAISE COMBO

**Works:** Deltoids.

**Why:** Strengthen shoulders and upper body. Prevent swimming injury. Stay strongly supported on bike.

1. Stand with your feet hip-width apart and hold core tight. Hold dumbbells in each hand palms facing each other.
2. Raise dumbbells to sides until arms are parallel to ground, lower to start position.
3. Turn hands so palms face back, raise dumbbells in front until arms are parallel to floor, lower to start position.
4. 1 lateral and 1 front raise is one rep. Repeat.

**Tips:** Keep your core tight and elbows soft, don't swing the weights, stay in control.

**Progression:** Increase weights, increase reps, reduce rest.

**Alternatives:** Using an exercise band, cable machine, lateral raise machine.



### 12. BENT OVER ROW

**Works:** Laterals, rhomboids, scapular stabilizers, shoulders, biceps, spinal erectors, glutes, and hamstrings.

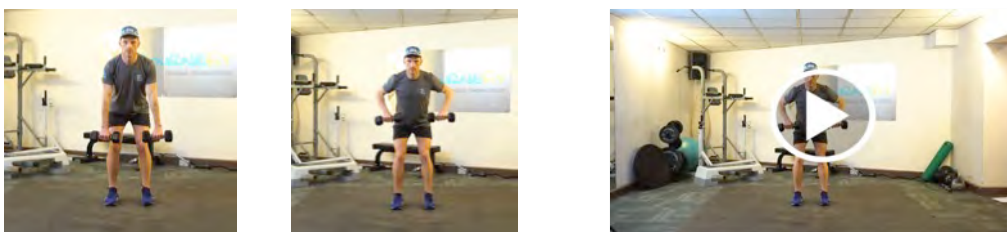
**Why:** Strengthens back and core stabilizers for swimming, good for bike postural endurance.

1. Bend knees slightly and hinge at the hip keeping your back straight. Hold bar or dumbbells (palms facing back).
2. Keep upper body stationary and pull weights to the torso and pause.
3. Return to starting position controlling the movement throughout.

**Tips:** Hold core tight throughout.

**Progression:** Increase weight.

**Alternatives:** Use band, lateral pull down, seated rows, inverted rows.





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### 13. PUSH UP

**Works:** Pectorals, shoulders, triceps and core.

**Why:** Increase upper body strength for swimming. Also supports you on the bike and powers your arms for the run.

1. Lie face down on floor, hands slightly wider than shoulder width.
2. Push down on the floor with your hands and raise the body up by extending the arms. Maintain a straight line from your heels, through hips, shoulders and back of head.
3. Lower body back down to the floor by bending the arms. Repeat.

**Tips:** You can do this from your knees, in a  $\frac{3}{4}$  position. Don't lock out your elbows.

**Progression:** Increase reps, add weight (vest or plate).

**Alternatives:** Incline dumbbell bench press, flies.



3/4 Position



Full



### 14. BENCH PRESS

**Works:** Pectorals, shoulders and triceps.

**Why:** Increase upper body strength for swimming. Support on the bike and power your arms for the run.

1. Lie back on bench, grasp bar (or dumbbells) with overhand grip slightly wider than shoulder width.
2. Dismount bar from rack and lower to the middle of your chest.
3. Press the bar back up until arms fully extended then lower bar back down to chest.

**Tips:** Remain in control and focus on the chest muscles you are targeting. Raise the knees placing ankles on foot rests if your back arches.

**Progression:** Increase weight.

**Alternatives:** Push ups, flies, incline dumbbell bench press.



## Strength and Conditioning for Triathletes

### 15. DUMBBELL PULLOVER

**Works:** Pectorals, shoulders, triceps, back, serratus anterior.

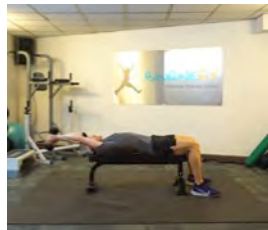
**Why:** Works all the muscles involved in the catch phase of freestyle.

1. Lay face up on a bench tighten core, hold a dumbbell in both hands with arms extended straight toward the ceiling.
2. Keep arms straight as you lower the weight in an arc behind your head to the height of the bench.
3. Slowly raise the dumbbell back to the starting position and repeat.

**Tips:** Don't bend elbows or let your back arch. Stay in control throughout the movement.

**Progression:** Increase weight.

**Alternatives:** Lateral and frontal raise combo, lat pull down.



### 16. TRICEP KICKBACK

**Works:** Triceps.

**Why:** Maintain form through back half of stroke, strengthen arms in long rides, power arm drive in run.

1. Kneel one leg on bench or chair, other foot flat on floor, bend forward 45 degrees from hip.
2. Hold weight in opposite hand to supporting knee and keep your upper arm parallel to floor, tight to side with a 90-degree bend at the elbow.
3. Raise your lower arm out behind you so that the arm with weight is straight out behind you.
4. Under control lower back to starting position. Repeat. When full number of reps is done repeat on opposite side.

**Tips:** Keep the upper arm strong and still throughout the movement. Hold core tight and stay in control.

**Progressions:** Increase weight.

**Alternative:** Tricep dips, cable triceps push down.



## Strength and Conditioning for Triathletes

### 17. TRICEP DIP

**Works:** Triceps, chest and anterior shoulders

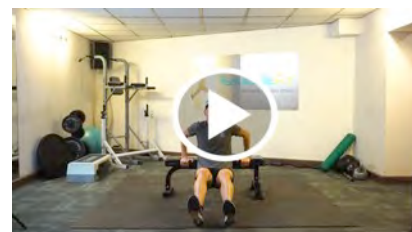
**Why:** Maintain swim form through back half of stroke, strength for long rides, power for arm drive in run.

1. Position your hands, shoulder width apart on stable bench or chair.
2. Slide off the chair with your legs slightly bent extended in front of you with your arms straight.
3. Lower towards the floor until 90-degree bend at elbow, keep the elbows pointed back.
4. Slowly push up back to the starting position. Repeat.

**Tips:** Focus on powering up using the muscles at the back of your arm, avoid collapsing downwards.

**Progression:** Straighten your legs for increased intensity.

**Alternatives:** Tricep extensions, overhead tricep extension with dumbbell or band.



### 18. GLUTE BRIDGE

**Works:** Glutes, hamstrings, erector spinae, rectus abdominus and adductors.

**Why:** Increase power for running and riding. Improve flexibility through the hips. Injury prevention.

1. Lie face up on the floor, knees bent and feet flat on the ground, shoulder width apart.
2. Lift your hips off the ground until your knees, hips and shoulders form a straight line. Squeeze your glutes hard and keep abs tight.
3. Hold the bridge for a couple of seconds before easing back down.

**Tips:** Take care not to over extend and arch the back. Focus on squeezing the glutes, don't rush.

**Progression:** Advance to single leg bridge with one leg raised and stretched out straight.

**Alternatives:** Squats, donkey kicks, standing glute kicks with band, glute machine, adductor machine.



## Strength and Conditioning for Triathletes

### 19. BIRD DOG

**Works:** Core Strengthening.

**Why:** To improve your ability to stabilize your core whilst mobilizing your extremities.

1. Begin on all fours, hands under shoulders and knees under hips. Tighten and hold your core.
2. Reach opposite arm forward and leg back so that they are straight. Reach through left heel to engage hamstrings and glutes.
3. Return to a starting position and repeat on other side. That is one rep.

**Tips:** Hold pelvis stable throughout. Take care not to lift arm/leg above parallel. Keep shoulders away from the ear.

**Progressions:** Increase reps, add a crunch by bringing elbow and knee together under you.

**Alternative:** Plank with leg lift.



### 20. LYING HIP ABDUCTION

**Works:** Glutes, hamstrings, TFL and hip abductors.

**Why:** Stability for pedaling, running and injury prevention.

1. Lie on your side on a mat with your legs extended away from the body.
2. Your lower arm placed under your head. Raise the top leg keeping the foot in a neutral position and the hips vertical to the floor. Raise the leg to about 45 degrees.
3. Slowly lower to your starting position. Repeat.

**Tips:** Any higher than 45 degrees and the movement involves the entire hip detracting from the target muscles.

**Progression:** Add ankle weight or band and/or reps.

**Alternative:** You can do this standing with a band or ankle weight, clamshells, adduction machine.



## Strength and Conditioning for Triathletes

### 21. PLANK

**Works:** Abdominals and back.

**Why:** Core stability for all disciplines.

1. Face down resting your weight on your forearms and toes, pull your abs in tight.
2. Maintain a hold for as long as you can with your body is in a straight line from shoulders to heels.

**Tips:** Don't allow your hips to sag or back to arch up. When your form slips take a rest. Keep elbows in line with shoulders.

**Progression:** Increase hold time, alternating leg raises (hold leg up for 10-20 seconds before switching).

**Alternatives:** Mountain Climbers, bird dog.



### 22. RENEGADE ROW

**Works:** Abs, Biceps, triceps, back and chest.

**Why:** Strengthens and stabilizes muscles used in swimming and stabilizers for cycling

1. Place 2 dumbbells or kettlebells shoulder width apart on the floor, assume push up position with hands on weight handles.
2. Push hard into grounded weight whilst pulling the opposite weight to your armpit.
3. Lower back to starting position, repeat with opposite arm. This is one rep.

**Tips:** Keep your core engaged. Maintain form and avoid swinging from one side to the other.

**Progression:** Increase weight, add push up.

**Alternatives:** Plank, bent over rows, push up, seated row.



## Strength and Conditioning for Triathletes

### 23. SIDE PLANK

**Works:** Abdominals and shoulders.

**Why:** Promotes strength through core targeting obliques, hips and upper body.

1. Lie on your side with your right forearm resting on the ground, feet on top of one another.
2. Lift your body off the ground supported by your forearm and feet, into side plank position. Attain straight line through shoulder hips and ankles.
3. Hold for as long as you can without losing form.

**Tips:** Maintain form and don't allow lower hip to drop.

**Progression:** Separate the legs and raise top leg into the air forming a star shape.

**Alternatives:** Spider Climber, bicycle crunches.



### 24. MOUNTAIN CLIMBER

**Works:** Cardio, abdominals, deltoids, biceps, triceps, chest, quads, hamstrings and hip abductors.

**Why:** Work multiple muscle groups improving mobility and strength.

1. Start in a push up position with straight arms, a flat body, your abs tight and your weight over your hands.
2. Pull your right knee into your chest holding the plank position. Switch and pull the left knee in whilst pushing your right leg back. This is 1 rep.

**Tips:** Stay strong throughout. Keep body flat.

**Progression:** Make dynamic by adding jump switch. Increase reps/time.

**Alternative:** Bicycle crunch, plank with leg raise, high knees, ab machine.



## Strength and Conditioning for Triathletes

### 25. SPIDER CLIMBER

**Works:** Abdominals, obliques, deltoids, biceps, triceps, chest, quads, hamstrings and hip abductors.

**Why:** Work multiple muscle groups improving mobility and strength.

1. Start in a plank position on elbows, a flat body and your abs tight.
2. Bring your right knee to the outside of your right elbow, alternate each side. 1 right plus 1 left is 1 rep.

**Tips:** Stay strong throughout, cease when you cannot hold form.

**Progression:** Increase reps/time. Come up onto hands and add a jump switch to make this more dynamic.

**Alternative:** Bicycle crunch, plank.



### 26. BICYCLE CRUNCH

**Works:** Abdominals.

**Why:** Improve your structural core strength to support all 3 disciplines.

1. Lie flat on your back, knees bent, finger tips at temples.
2. Engage your core and raise your knees so your thighs are vertical with the floor.
3. Drive your right knee towards your chest at the same time extend your left leg towards the mat. Crunch until your right knee touches your left elbow then switch sides.

**Tips:** Stay strong, stable and in control of the movement throughout. Cease if your form slips.

**Progression:** Increase reps.

**Alternative:** Spider Climbers, plank, sit-ups.



## Strength and Conditioning for Triathletes

### 27. SIT UP

**Works:** Abdominals, hip flexors.

**Why:** Improve your structural core strength to support all 3 disciplines.

1. Lie on the floor with your knees bent. Optional, tuck your feet under something for stability (or have partner hold your feet). Have your fingertips at your temples, or crossed on chest.
2. Lift your upper body off the floor and towards your thighs. Contract your abs.
3. Lower back to the starting position. This is 1 rep.

**Tips:** Stay in control throughout, keep your elbows back and don't pull on the head/neck.

**Progression:** Have plate on chest to add resistance.

**Alternatives:** Plank, bicycle crunches, ab machine.



### 28. REVERSE CRUNCH

**Works:** Abdominals.

**Why:** Core strength for all disciplines.

1. Lie face up on the ground with hips bent at 90 degrees, legs relaxed.
2. Pull your knees towards your chest by tilting your pelvis until your tailbone lifts off the ground.
3. Lower back down without letting your feet touch the ground. Stay in control throughout.

**Tips:** Don't let your back arch, if it helps you can tuck your hands under your backside.

**Progression:** Increase reps/sets, place hands at temple and hold head & shoulders off the ground whilst crunching.

**Alternatives:** Mountain climber, sit-ups, bicycle crunches, ab machine.





## Strength and Conditioning for Triathletes

### 1. FLEXIBILITY: Downward Dog

**Stretches:** Back, hips, hamstrings and calves.

**Why:** Uses strength of arms and legs to fully and evenly stretch your spine.

1. Start on floor on hands and knees. Set knees directly below your hips and hands slightly in front of shoulders. Palms spread. Turn toes under.
2. Breathe out and lift knees away from floor. To start keep knees slightly bent and heels lifted.
3. Lift sitting bones towards the ceiling. Gently pedal your heels towards the ground and straighten your legs.
4. Hold from 1-3 minutes.



### 2. FLEXIBILITY: Pigeon Pose

**Stretches:** IT Band, glutes and hip flexors

**Why:** Injury prevention and hip mobility

1. Start on hands and knees, bring your right knee forward and close to your right wrist, ankle near left hip.
2. Slide your left leg back, straighten knee and point toes, heel to ceiling.
3. You can stay here with your upper body upright or exhale and fold forwards over the front leg.
4. Stay relaxed and hold pose for 30-40 seconds. Switch sides. Repeat as required.



## Strength and Conditioning for Triathletes

### 3. FLEXIBILITY: Kneeling Hip Flexor Stretch

**Stretches:** Hip flexors, glutes and quads.

**Why:** Keeping your hips open allows you to maximize your strength in full range of movement.

1. From kneeling with left knee directly under hip place the right foot in front of right hip.
2. Rest hands on knee or down to ground, wherever you feel is right for you.
3. Hold for 20-30 seconds before switching sides. If you are tight repeat on both sides.



### 4. FLEXIBILITY: Figure 4 Stretch

**Stretches:** Glutes and piriformis.

**Why:** Mobilize hip joint, ease stiffness in the back

1. Lie flat on the floor. Bend one knee and place opposite ankle on thigh of bent leg. Hold the bent leg with clasped hands behind the thigh and ease it to your chest.
2. Hold for 20-30 seconds. Release and repeat on opposite side.
3. Repeat as required.



## Strength and Conditioning for Triathletes

### 5. FLEXIBILITY: Hamstring

**Stretches:** Hamstrings.

**Why:** Lets blood flow back whilst stretching your hamstrings. Tight hamstrings can lead to pressure on the lower back and restricted hip flexibility and range of motion.

1. Lie on the ground by open door, back flat and resting leg out flat.
2. Slide the foot of the stretching leg up the wall until straight.
3. Keep your back neutral and relax. Hold for 30 – 40 seconds, switch legs.



### 6. FLEXIBILITY: Chest Opener

**Stretches:** Chest.

**Why:** Improve your flexibility and range of motion through your shoulder joint. Improve posture.

1. Stand, feet hip width. Clasp your hands behind your back (or hold towel).
2. Squeeze your shoulder blades together.
3. Hold for 20-30 seconds, rest and repeat as required.

