

# Strength Training Exercises for Running

## THESE EXERCISES

The exercise routine below may be a beginning point for adding strength training to your running schedule. The basic exercises cover the large muscle groups needed for running, ie. a strong trunk and pelvis with good core muscle strength, as well as strong thighs, glutes (buttocks), hamstrings and calves. If you are new to strength training, it is advised to consult a professional first. If you've had a previous injury there may be some exercises to avoid, or some which will specifically address any weaknesses, you have. Every

person is different so these exercises are only a guide that may require some tweaking for you specifically.

It is recommended to do 2-3 strength sessions per week. Exercises should be done in sets of 3 with 8 repetitions per set. Two minutes between sets is advised for recovery. If at any time you feel pain, stop and consult your therapist. Never sacrifice your form/ technique for heavier weights or more repetitions.

## Supine Bridge Basic

Lie flat on your back, with your feet resting on a Swiss ball, and your arms by your side (palms face down). Squeeze your bottom muscles and lift your back upwards. Make sure you maintain good posture (do not over-arch your lower back) and contract the deep abdominal muscles by squeezing your tummy towards your spine. To make the exercise easier, move the ball towards your body (ie. more under your legs), and to make it harder, move the ball away from your body (ie. more under your heels). This exercise helps to strengthen the abdominal, lower back, gluteal and hamstring muscles.



SETS	REPS
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 **Video:**  
[http://youtu.be/Qt3C1KIdR\\_A](http://youtu.be/Qt3C1KIdR_A)

## Lunge with Kettlebell

Holding a kettlebell in each hand, take a step forwards, and bend your front knee past the vertical. Your back knee drops towards the floor. Always keep good alignment, your knee should stay over the 2nd ray of your foot, and never let your knee drop inwards. Return to the start position and repeat by lunging with the other leg forwards. You must focus on doing it correctly - if needed start with no weights in your hands and then progress by adding weight.



SETS	REPS
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 **Video:**  
<http://youtu.be/08U1WBIMOAY>

## Squat with Band

Place your feet shoulder width apart, or just outside shoulder width. Tie an exercise band around your knees keeping it quite tight. Slowly bend your knees to go into a squat position. Maintain a good curve in your lower back, and control the squat making sure your knees do not drop inwards. When you have gone as low as feels comfortable, push upwards through your legs to straighten your knees into a standing position. Repeat as required. This exercise can be progressed over time by adding weight in your hands like a dumbbell.



SETS	REPS
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 **Video:**  
<https://youtu.be/He8ZbhLIW68>

## Romanian Dead Lift

Keep your knees just slightly bent, shoulder width apart, and place a dowel rod or barbell on the blocks. Keep your back straight/flat as you bend your knees more towards the bar. Hold the bar shoulder width apart or slightly narrower, with one palm facing up, one palm down (or both palms facing down). Lift the bar up by straightening the legs and extending the back at the same time. Keep the bar close to your shins during the movement. If you lack flexibility you may need to bend your knees a little. Squeeze shoulder blades at the top of the movement. Return to the start position.



SETS	REPS
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 **Video:**  
<http://youtu.be/8OIZEOLaBmo>

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**Plank**

Rest on your forearms and your toes. Hold this position. Keep good straight posture, and do not let your back arch too much. This is a core strengthening exercise. To progress, hold the plank for longer periods of time. So initially you may start with 3 x 20 second holds, then increase to 3 x 30 second holds for example.



SETS	REPS
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 **Video:**  
<http://youtu.be/noeBz0JoW-4>

**Floor Superman Opposite**

Lie on your front, and lift your opposite arm and leg, keeping them straight. Hold this position, and then relax. This exercise helps to arch your lower back (to create what is known as a lumbar hyperlordosis) while strengthening the lower back and buttock muscles.



SETS	REPS
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 **Video:**  
[http://youtu.be/ViUO\\_rtSiA](http://youtu.be/ViUO_rtSiA)

**Calf Raises Two Legs**

Stand upright and hold onto a wall/table for balance if required. Slowly raise up onto your toes, and control the movement back down. This exercise will strengthen the calf muscles and ankle joints. This exercise can be progressed by holding weights in your hands or using a weighted backpack.



SETS	REPS
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 **Video:**  
<http://youtu.be/cqDMYUalXww>

**Plank One Arm Rotation**

Rest on your forearms and your toes. Lift one forearm off the ground. Twist your whole body and raise your arm directly in the air. Hold this position and then return your arm back down to the floor. This is a core strengthening exercise.



SETS	REPS
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**Strength Training for Runners in Numbers**

Enhance running economy **↑8%**

Faster time-trial performances over **1500-3000m and 5-10k**

10k = **↓2-3 mins** race time for a recreational runner

Reference: Effect of strength training on the physiological determinants of aerobic endurance performance in runners. Sports Medicine 2012

**Strength Training Can**

Moderate resistance **60-80%** at 1 repetition max

**5-15 repetitions**

**3-6 sets**

Reference: Effects of strength training on the physiological determinants of aerobic endurance performance in runners. Sports Medicine 2012

**Strength Training Programmes**

Reduce the risk of sports injuries by an average of **66%**

Reference: Strength training to improve lower extremity and core control of gait and reduce injury risk in a systematic review. Qualitative analysis and meta-analysis. British Journal of Sports Medicine 2012

**Strength Training Programmes**

Reduce the risk of injury by **>4%**

**↑10%** increase in strength training volume

Reference: Strength training to improve lower extremity and core control of gait and reduce injury risk in a systematic review. Qualitative analysis and meta-analysis. British Journal of Sports Medicine 2012

**Strength Training Reduces the Risk of**

Acute injuries **↓36%**

Overuse injuries **↓48%**

All injury **↓70%**

Reference: The effectiveness of exercise interventions to prevent sports injuries: a systematic review and meta-analysis of randomised controlled trials. British Journal of Sports Medicine 2013

**Proprioception (Balance) Training Reduces the Risk of Injury**

**↓45%**

Reference: The effectiveness of exercise interventions to prevent sports injuries: a systematic review and meta-analysis of randomised controlled trials. British Journal of Sports Medicine 2013

**Strength Training Improves Running Performance**

**↑24%** increase in squat strength

**4.8% → 8.1%** improvement in running economy (this impact grows over time)

**VO<sub>2</sub>max ↑4%** which means that your body can take in more oxygen and deliver it to your muscles, enabling you to run faster for a given effort.

Reference: The Effect of Strength Training on Running Performance in Distance Runners. The Journal of Strength & Conditioning Research 2011

**Strength Training Needs Planning**

Strength sessions should be performed at least **3 hours** of rest and recovery after a high intensity run

**OR**

At least **24 hours** recovery after strength training before doing a high intensity running session

Reference: Effects of strength training on the physiological determinants of aerobic endurance performance in runners. Sports Medicine 2012