

*Before you start any kind of exercise regimen, think safety first. Talk to your doctor before you begin any new routine. Make sure you understand how you should be exercising (talk to a qualified trainer if you have any questions), ensure that you work within your own capabilities and always monitor yourself whilst working out.*

## Core Training Program

A strong and balanced core is the foundation of strength. The 'core' comprises of more than 30 key muscles - mainly located through the trunk and torso - that combine to stabilize the spine (from the pelvis to the neck/shoulders) and enable the transfer of efficient movement into the limbs. Nearly all effective human movement originates from the center of the body and therefore it is hugely beneficial if your core is conditioned.

### Benefits

- Enhances functional fitness - fitness that is essential to both daily living and regular activities
- Conditions the abdominal structures involved in movement
- Improves the transfer of power to and from the extremities
- Teaches muscles to work together efficiently and effectively
- Aids in the prevention of injury
- Strengthens and improves the torso's stabilization - improving postural control while the body is at rest and in motion
- Improves respiratory function.
- Facilitates proper distribution of weight and assists the body to absorb static and dynamic forces
- Enhances neuromuscular efficiency and control (enabling efficient movement and physical positioning)
- Improved functional fitness can enhance mental well being
- Effective core training can be performed in your own home without the need for any additional training equipment

### Key Points

- Look to increase heart rate/blood flow prior to performing any core program (gentle warm up)
- Think 'form first'. Good form means aligning your body as described in the exercise instructions and moving smoothly through an exercise.
- Quality beats quantity. Only perform as many reps, or hold a position, whilst you can maintain excellent form. Build up reps and sets as your efficiency and execution improves.
- Core work shouldn't hurt. Stop if you feel any pain (especially if it's lower back pain). Check your form and try again. If pain persists, check with a doctor, therapist or trainer before continuing.
- Practice often. You'll see the best gains if you consistently do core exercises 3-4 times a week.
- Brace yourself! Engage your core properly before each exercise. See Part A below.
- Don't just focus on abdominal exercises. An effective core training program works a wide range of structures responsible for postural control and stabilization.
- Core flexibility is as important as core strength. Combine these core exercises with an effective stretching program
- Core work gets harder when an unstable surface is introduced - your muscles have to work harder to achieve stability and control.
- **If it's too hard, adapt!** Do fewer reps, hold for fewer seconds or try an easier variation of the exercise.
- **If it's too easy, adapt!** Add reps, increase time or try a harder variation.

### Part A: Deep Core Bracing

Deep Core Bracing is the key to effective core training and conditioning. It relies (primarily) to the successful co-contraction of the abdominal muscles, the multifidus muscle and the transverse abdominis muscle. To correctly brace, engage your pelvic floor and (simultaneously) attempt to pull your navel back in toward your spine. Try not to hold your breath - the aim is to breathe evenly, through both the inhale and exhale, whilst maintaining bracing. Practicing this skill is perhaps easiest when lying on your back (supine).

Try the drill in this short video to help you achieve this key technique <https://www.youtube.com/watch?v=p8O04WLXFt8>

\*make sure you don't mistake deep core bracing for just a contraction of the abdominals - purely engaging your 'six pack' is not the correct technique!

## Part B: Maintaining Bracing

The second key element of effective core training/conditioning involves sustaining the Deep Core Bracing introduced in **Part A**. Eventually the aim is to hold the co-contraction for as long as is possible.

To progress from **Part A**, simply increase the duration of the contraction gradually - perhaps in increments of ten seconds - building up to a period of 5 minutes. Again, perform this in the supine position so you can fully focus on the bracing. At this point the practice should become 'second nature'.

Once you achieve this, you can progress to performing deep core bracing whilst in different positions (such as sitting/standing) and when doing your normal everyday activities. Beyond this, you are ready to progress to more specialized core exercises in **Part C**

## Part C: Core Exercises

Aim to perform all of the following core exercises whilst maintaining Deep Core Bracing. You can then adapt these exercises - introducing more challenging variations and/or increasing reps and time of hold - and ultimately build into your own short core circuit.



### Exercise #1 Abdominal Crunch

Lie on your back and place your feet on a wall so that your knees and hips are bent to 90-degree angles. Cross your arms on your chest and engage your deep core bracing. Raise your head and shoulders off the floor - avoiding straining the neck - and hold for a count of 3 seconds. Return to the start position and repeat.

Simple variation ideas:

- Place hands by side of head - increasing torque
- Do not use the wall for stability (keeping 90-degree angle in hip & knee)
- Try 45-degree angle through both hip and knee
- Hold a weight and/or use ankle weights



### Exercise #2 Bridge

Lie on your back with your knees bent to 90-degrees with feet flat on the floor. Keep your arms by your side, back in a neutral position (not arched unnaturally or pressed flat against the floor) and deep core braced. Raise your hips off the floor until your hips are aligned with your knees and shoulders. Hold for a count of 3 seconds. Return to the start position and repeat.

Simple variation ideas:

- Place hands/arms up above your head (reducing stability)
- Whilst in the bridge position, slowly straighten each leg on an alternating basis (holding extended position for 3 seconds)



### Exercise #3 Static Plank

Start in a supine position and raise yourself up so that only your forearms and toes are in contact with the ground. Ensure that your head/neck are aligned with your back, elbows are directly under your shoulders and deep core braced. Hold this position for a period of 10 seconds. Return to the start position and repeat.

Simple variation ideas:

- Move onto your hands rather than forearms - ensure hands are directly under the shoulders



#### Exercise #4 Side Plank

Lie on your left side and raise yourself up so that only your left forearm and left foot are in contact with the ground. Ensure your left shoulder is directly above your left elbow, shoulder/hips/knees are in perfect alignment and deep core braced. Your right arm can rest gently along the side of your body. Hold for a count of 10 seconds, return to the start position and repeat on the right side.

Simple variation ideas:

- Move top arm away from the side of the body - increasing torque & decreasing stability
- Add controlled & dynamic movement - either abducting top leg or moving hips towards floor (side bending)



#### Exercise #5 Bird Dog

Start in the classic 'Quadruped' position - shoulders/hips/knees flexed to 90-degree with hands/knees/toes in contact with the floor. Hands should be placed shoulder width apart, positioned directly underneath the shoulders - similarly, knees should be hip width apart and positioned directly under the hips. Head/neck should be aligned with your back and deep core braced. In a slow and controlled motion, raise the right arm and left leg into horizontal positions and hold for a count of 3 seconds. Return to the start position, again in a slow and controlled motion, before repeating with the left arm/right leg. Perform 3 reps on each side, breathing evenly throughout.

Simple variation ideas:

- Challenge yourself to move as slowly as possible through the movement



#### Exercise #6 Dynamic Plank (Superman)

Raise yourself up so that only your hands and toes are in contact with the ground. Ensure that your head/neck are aligned with your back, hands are directly under your shoulders and deep core braced. This is the start position. In a slow and controlled motion, raise the right arm and left leg into horizontal positions and hold for a count of 3 seconds. Return to the start position, again in a slow and controlled motion, before repeating with the left arm/right leg. Perform 3 reps on each side, breathing evenly throughout.

Simple variation ideas:

- Try different dynamic planks (look online for ideas)



#### Exercise #7 Bicycle Crunch

Lie flat on the floor in a supine position, place your hands beside your head and deep core brace. Alternate bringing your knees into your chest - slowly imitating a bicycle pedal motion. Simultaneously bring alternate elbows toward the opposite knee. Perform 5 reps on each side, breathing evenly throughout.

Simple variation ideas:

- Increase/decrease speed of exercise execution and number of reps



#### Exercise #8 Wipers

Lie on your back with your knees bent to 90-degrees and feet together/flat against the floor. Keep your arms on the floor in a comfortable position (slightly out to the side for stability), ensure your back is in a neutral position and deep core brace. and your back in a neutral position. Keeping your shoulders on the floor, allow your knees fall slowly to the left - maintain control throughout and do not allow knees to touch the floor. Go only as far as is comfortable (you should feel a stretch but no pain) and hold this position for 3 seconds. Raise the knees slowly back to the start position and repeat on the right side.

Simple variation ideas:

- Flex your knees and hips to 90-degrees (so that feet are off the ground) and repeat movement
- Flex your hips to 90-degrees and straighten your legs - repeat the movement