

# How to stabilize your back, and learn to move with improved efficiency, to reduce back pain and disability without medication or procedures.

Your breathing should stay normal, and you should not have to hold your breath during any of the exercises. It is common for people to initially hold their breath, but you want to keep your breathing pattern normal. What you are looking to accomplish with this exercise, is to learn to engage your muscles that flatten your back to the ground, while learning to maintain a normal breathing pattern.

The first exercise is the foundation of the whole progression. You must be able to maintain your back flat to the ground while having a normal breathing pattern. You are working to learn to stabilize your spine without the need to hold your breath.

Start by laying on your back, knees bent, feet flat on the ground. Notice the space between your low back and the floor. If your legs are straighter, you will notice the space increases. As you bend your legs more, the space flattens out. This is the area we want to focus on. Our goal is to press down into the floor with your low back. As you press your low back into the ground, you will notice your abdominals activate. This action should be subtle, but noticeable. As you press down into the ground with your low back, be aware of your breathing. Start this exercise by maintaining a 3 second hold with normal breathing. Progressively work up to a 10 second hold while maintaining your normal breathing pattern. Your goal is to maintain a 10 second hold with normal breathing, and complete 10 repetitions.



Next, you want to learn to move your arms and legs without losing the flattened back position. While holding your back pressed into the ground, march one leg up toward your chest and return it back to the starting position. Relax. Press your back down again, then march with the opposite leg. Relax. Your goal is to maintain your back to the ground while alternately marching toward your chest. When you can maintain a flattened back and normal breathing, alternately march your legs without rest for 30 repetitions. This exercise is easy for most people, but we are learning a pattern that can be repeated so it is an important progression.

Take the same idea for the next exercise, but instead of marching toward your chest, work on placing one leg flat down on the ground. This variation can be more difficult because lowering your leg makes your back want to arch up more. When you are marching toward your chest, you are making pressing your back down easier. When you are straightening your leg down, you are making pressing your back down more difficult. As you improve your ability to maintain your back pressed down, you can alternate legs without rest for 30 repetitions.



Another variation would be learning to reach your arms overhead without losing the press of your back into the ground. Some people will struggle with this, which tells us that when they reach overhead during the day, their back stabilization fails, and they are at risk of injury. If you struggle to maintain a stabilized back when marching, then your back stabilization falls when placing your foot onto a step, or when stepping over something. If you can't maintain a stable back when you straighten your leg, then your back stabilization may fail when you climb stairs, walk, or stand from a chair.



Work to coordinate arm and leg motions all while maintaining your back pressed into the ground. Start with your legs off the ground, like you are crawling, but on your back. Your back will be flat to the ground when you start this. Then, reach one arm and the opposite leg while keeping your back pressed down, all without holding your breath. Return to the starting position and repeat. Bringing

your hand to the opposite knee can help you coordinate the movement. Work on repeating one arm and leg without holding your breath, then switch to the opposite pair. When you get good at both pairs, you can try to alternate them, which takes more coordination, but is necessary to learn to do. Work up to completing 30 repetitions without rest, and without holding your breath.



Now that you've learned to move your arms and legs while maintaining a stabilized back, you are going to switch positions to add more of your body weight and increase the challenge.

Start in a hands and knees position. Engage your abdominal muscles the same way you did to stabilize on your back. Start easy by reaching one arm forward, then the other. Notice that one arm may be easy to maintain your stability, and one arm may be difficult. Then try reaching one leg straight back, then the other. Again, notice the differences from side to side. When you can move each arm and leg without losing your back stability, try to reach one arm forward at the same time you reach the opposite leg back. Hold this position 3 seconds, then switch to the other arm and leg. Make sure you pair one arm with the opposite leg. As you improve, work on holding the position for 10 seconds, and repeating 5 times on each side.





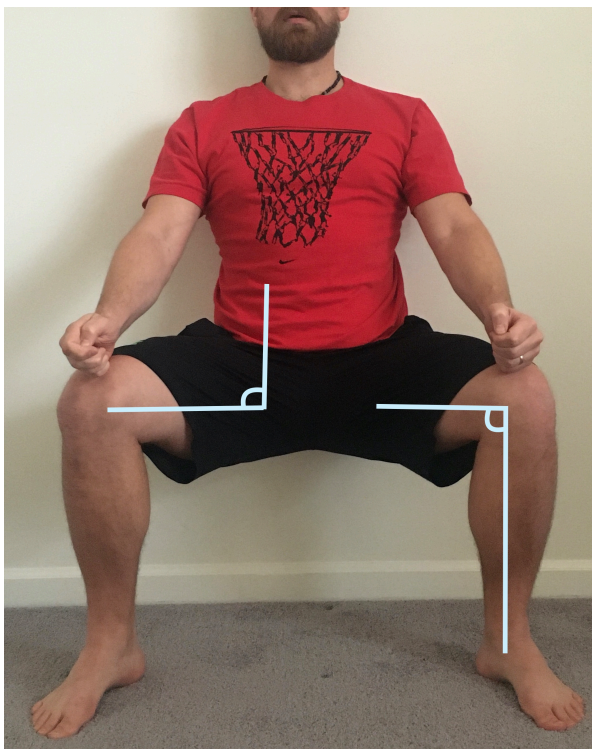
Next, flip back onto your back. Engage your abdominals to press your back flat, and pressing through your heels, lift your butt off the ground. It's easy to forget to press your back flat and maintain the engagement so take time to focus on this. Work to keep your butt lifted and abdominals activated, without holding your breath, for 10 seconds, 10 repetitions.



Turn back onto your stomach and prop yourself onto your elbows like you are reading a book. Engage your abdominals like you've done for every exercise, press through your elbows and toes, and lift your body off the ground. You are trying to maintain a straight line from your shoulders, through your hips, to your toes, so be careful to not lift your hips too high, or let them sag low. Your abdominals are active, you are breathing normal, and you are increasing your endurance to maintain a stable position. Start with 3 second holds, 5 repetitions. Work until you can do 10 second holds for 10 repetitions without holding your breath.



Switch over to laying on your side with your legs stacked. Prop your bottom arm underneath you, engage your abdominals, and lift your hips by pressing through your elbow and the outside of your bottom foot. Again, you are trying to maintain a straight and stable line from your chest, through your belly button, to between your feet, so be careful to not lift your hips too high, or let them sag low. Start with 3 second holds, 3 repetitions on each side. Work until you can do 10 second holds for 5 repetitions on each side without holding your breath.



The last exercise involves standing up and doing a wall squat. To do this, stand with your back against the wall and your feet out in front of you so you are leaning back. Engage your abdominals and flatten your low back to the wall. While maintaining this position, and keeping your breathing normal, slide your body down the wall to a squat position you can hold. Start with 3 second holds, and work up to 10 repetitions. Progress yourself to squat further down until your hips and knees are at 90 degree angles, which means your hips are as low as your knees, and your thighs are parallel to the ground. Work toward increasing the hold duration for 10 seconds with 10 repetitions.

The goal of the entire exercise program is to learn to maintain a stable back in a variety of positions while breathing normal. Each exercise should be held for 10 seconds, 10 repetitions as you improve. After you can do this program efficiently, you are ready to progressively increase your movement and challenge of your activity.