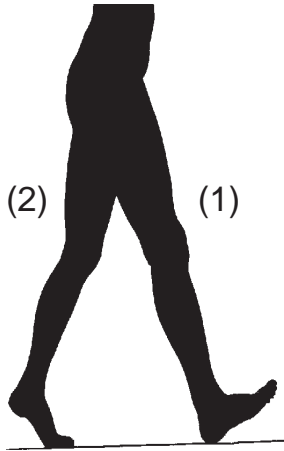


## SIT - UP EXERCISES FOR A HEALTHIER BACK

**S**it-up exercises are very important because they help relieve lower back pain and tone the muscle groups surrounding your abdomen. These muscles are known as the core muscles. Strong core muscles help produce a stronger and healthier back.

Sit-up exercises may relieve lower back soreness and pain because of Sherrington's

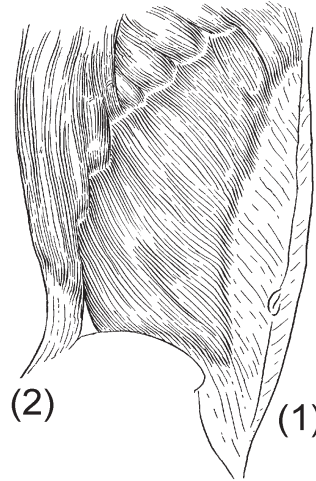
Law of Reciprocal Inhibition which states that when you contract a muscle group, the opposing muscle group must relax.



During a muscle contraction, the muscles that contract are called the agonist group; the muscles that must relax are called the antagonist group. When you walk, your thigh muscles alternately contract and relax. The quadriceps (1) move the leg forward while the hamstrings (2) relax. This sequence is repeated as the hamstring group contracts and the quadriceps group relaxes. This same concept applies to sit-up exercises.

When performing sit-up exercises, the stomach (1) muscles contract and the lower back muscles (2) relax and stretch. As the stomach muscles gain strength and tone, they assist in decreasing

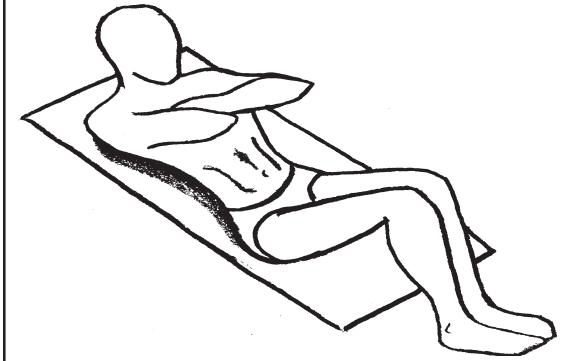
the curve in your lower back. An accentuated lower back curve strains the muscles and joints of the lower back and is frequently a source of chronic lower back pain, tightness and/or stiffness. Performing sit-up exercises on a regular basis will help to decrease the curve in the small of your back and help to relieve these symptoms.



### HOW TO PERFORM SIT - UP EXERCISES

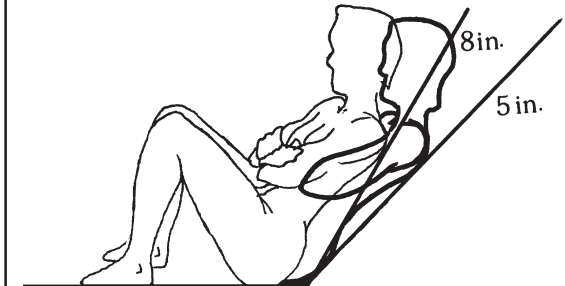
When performing sit-up exercises it is recommended that you put your feet under a sit-up bench, sofa, your bed or have someone hold your feet down. This stabilizes your hips and isolates your abdominal area. Cross your arms across your chest let your head drop back as you pull up to avoid straining your neck.

### UPPER ABDOMINAL SIT - UP (CRUNCHES)



Lift your body off the surface approximately 4-5 inches as shown. Do 10 repetitions to start and increase the amount of repetitions as you are able. This exercise, even though important doesn't affect the lowest back muscles like the next exercise will. Do this exercise first.

### MID ABDOMINALS



Lift your body up to approximately 8-10 inches and lower yourself down approximately 5 inches using the same technique as the first abdominal exercise (Your feet should be secured to stabilize you). You may find this exercise more challenging because most people do not exercise this portion of the stomach muscles. Do 10 repetitions and increase the number of repetitions as your tolerance allows. This exercise directly affects the lower part of your back because these muscles are opposite the lowest back muscles.

## LATERAL SIT-UP EXERCISES



The muscles on each side control the rotation of the core or trunk muscles. An easy way to exercise these is to lay on your side with your arms crossed the same way as they were for the other sit-up exercises. Your lower leg should be bent (as shown above) and the leg on top should be straight and either held down by someone assisting you or place the foot under something like your bed to stabilize yourself. Lift your body sideways approximately 2 - 3 inches straight upwards performing 10 repetitions to start, increase repetitions as you are able.

## IMPORTANT HINTS

- ❑ If your back starts to hurt when doing the sit-ups, stop and lay back down and wait 20 to 30 seconds. The pain should go away before you continue.
- ❑ Allow your head to drop backward as you bring yourself up to prevent straining your neck as you do the sit - up.
- ❑ Sit - up exercises are great for warming up before any athletic activity. Do them before tennis, basketball, running or golf. This will preload your muscles, warm them up and help prevent lower back pain both before, during and after the activity.

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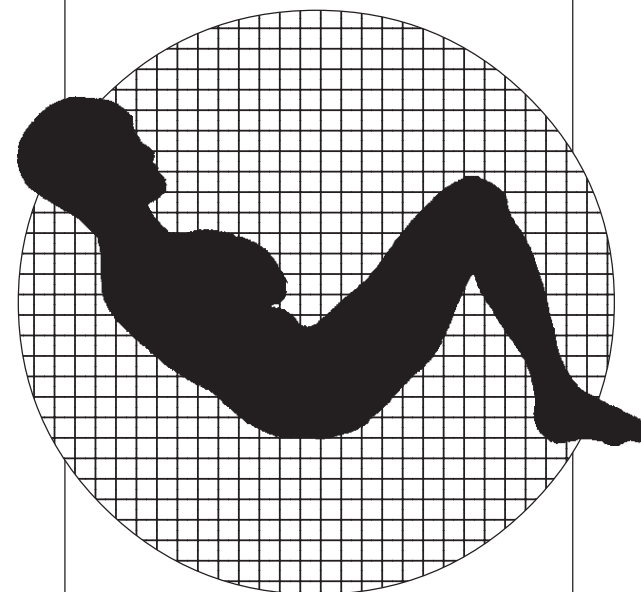
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# Sit-up Exercises for a



# Healthier Back