



PREVENTION & REHABILITATION

## Self-management: Patient section The New Abds<sup>☆</sup>

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### Introduction

People have always been infatuated with abdominal exercises. Not only amongst the fitness elite, but even sedentary people want a flatter tummy! Whether it is for cosmetic purposes or to protect against back pain abdominal exercises have probably drawn more attention than any other exercises.

One abdominal exercise in particular, the sit-up, has become the most famous. Unfortunately, with all the attention and effort a common complaint heard in spine care centers is “I don’t understand why my back hurts. I do a hundred sit-ups every morning.”

A major problem with this common exercise is that the sit-up places a high level of stress on the discs of the low back. Additionally, the morning is a vulnerable time for the back since the discs are normally a little swollen after being recumbent all night. Finally, the spine may not be warmed-up first thing in the morning.

A safe alternative to sit-ups is shown here. This is a functional abdominal exercise in that the arms and legs are active at the same time as the

abdominal muscles. This is important since in daily life—e.g. bending, lifting, pushing, or pulling activities—we do not isolate our abdominal muscles from the rest of our body, but instead we integrate the abdominals, arms and legs.

This integrated function is even more evident when we perform sports like volleyball, skiing, European football, or tennis where the core keeps the torso rigid and stable so the arms or legs can push or pull to generate power or absorb force. When the abdominal muscles keep the torso rigid and stable this is called an “isometric” contraction because the trunk is not moving, but being held stiff. The exercise shown here trains this isometric function of the abdominal muscles which is so important to prevent back injury during activities as well as to enhance sport performance.

### Procedure

- Lie on your back with your head about one foot from the wall
  - If necessary put a small pillow or folded towel under your head for slight support
- Place your palms against the wall while being sure your elbows are slightly bent
- Lift one leg up at a time until both feet are in the air with your knees bent as pictured (see Figure 1)

<sup>☆</sup>This paper may be photocopied for educational use.

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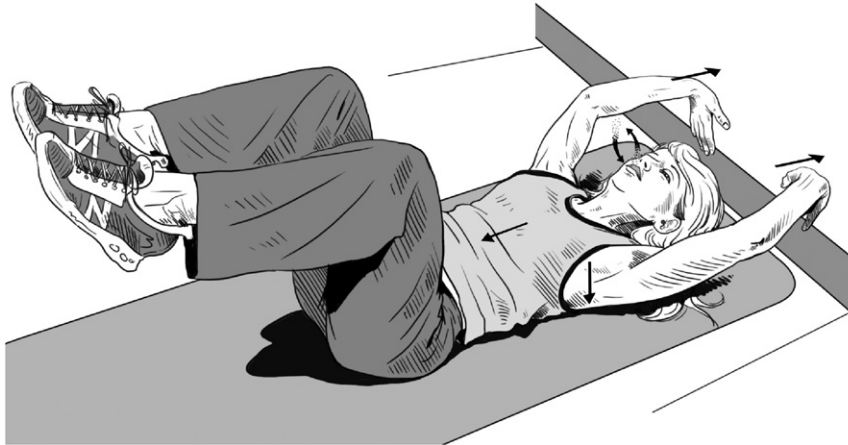


Figure 1 Functional abdominal exercise—start position.



Figure 2 Functional abdominal exercise—alternate heel tapping.

- Next, push away from the wall with your hands (don't actually move your body as this will be what is called an "isometric" effort)
  - You should instantly feel your abdominals tighten in the front and sides along with your back muscles so that you have 360° of support or tension
  - Notice how when you do this your lower ribs above your belly move down towards your waist
    - This is an isometric version of the famous "crunch" exercise
- While pushing away from the wall and feeling your ribs move downward be sure to maintain a normal in and out breathing pattern. Do not hold your breath in or exhale vigorously. Just continue to breath normally
- Finally, while continuing to push away from the wall, feeling your ribs move down, and maintaining a normal breathing pattern begin lightly tapping the floor with one heel at a time (see Figure 2).

*Repetitions:* Perform this until you have alternated tapping the floor with each heel between 8 and 12 times.

*Sets:* Rest for a few seconds and then perform 2–3 additional sets.

*Frequency:* This should be performed 1–2 × / day.