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## SELF-MANAGEMENT: PATIENT SECTION

# The missing link in protecting against back pain

Craig Liebenson\*

L.A. Sports & Spine, 10474 Santa Monica Blvd # 304, Los Angeles, CA 90025, USA

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Whether you suffer from lower back pain or merely wish to improve your fitness odds are you have been told to build up your abdominals. While the abdominals are important, studies have shown that the often ignored spinal extensors (your back muscles) are at least as important (Biering-Sorensen, 1984; Luoto et al., 1995). Yet, most people do not know how to train these vitally important muscles.

Think for a second about your upright posture – or lack thereof! It is easy to become slouched, stooped, or slumped. After all, we tend to sit way too much. The most popular abdominal exercise is the sit-up which actually makes us bend forward even more. Scientific investigations have discovered that normally our back muscles have one-third more endurance than our abdominals. But, in back pain patients this endurance is equal to the abdominals. So the message from the latest scientific evidence is clear – to protect your back strengthen it!

Besides helping low back pain, spine extensor training is an ideal way to build up bone density in the spinal column of pre-menopausal women. In fact, whereas sit-ups have been shown to be dangerous for osteoporotic women, back extensor exercises have been shown to be safe.

Here are a few excellent trunk extensor exercises that you can perform with a gymnastic ball.

## Bird Dog

Start:

- Kneel on your hands on knees
- Hands directly under your shoulders and knees directly under your hips
- Round your back up and then let your spine relax **down** to the floor into a natural slightly arched position (see Figure 1)
- Hold this slightly arched down position and “brace” your back by slightly tensing the muscles in 360° around your back to stiffen your spine
- Hold this “braced” position while breathing normally (this takes a little practice!)

### Technique:

- Keep your spine “braced” and reach with 1 arm all the way in front of you while simultaneously reaching with your opposite leg all the way behind you
- Push with your support hand down into the floor so that your head/neck and upper back push off the floor slightly (see Figure 2)
- Hold this position for a few seconds
- Then return to the start position
- Alternate arms and legs

### Avoid:

- Poking your chin out
- Letting your shoulder blade stick out (see Figure 3)
- Flattening or rounding your back
- Dropping your pelvis on one side
- Holding your breath

\* Tel.: +1 31047 02909; fax: +1 31047 03286.  
E-mail address: [cldc@flash.net](mailto:cldc@flash.net)

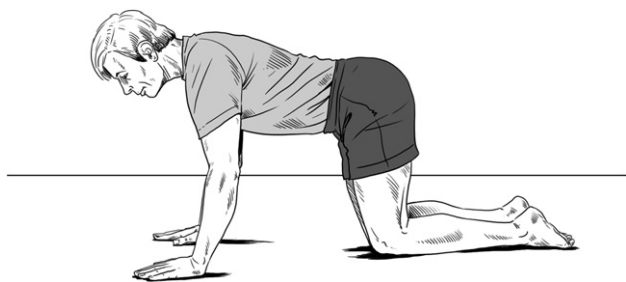


Figure 1 Start Position on All 4's.

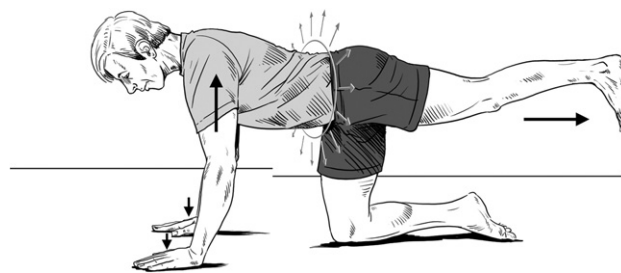


Figure 5 Quad Leg Reach.

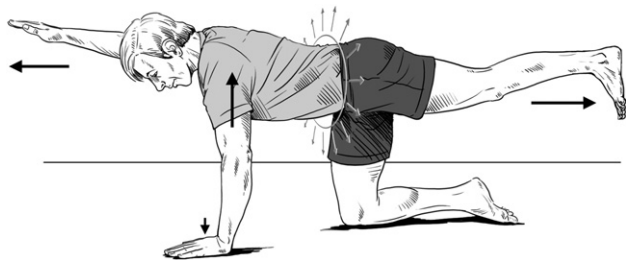


Figure 2 Bird Dog.



Figure 3 Incorrect and Correct Shoulder Blade Position.

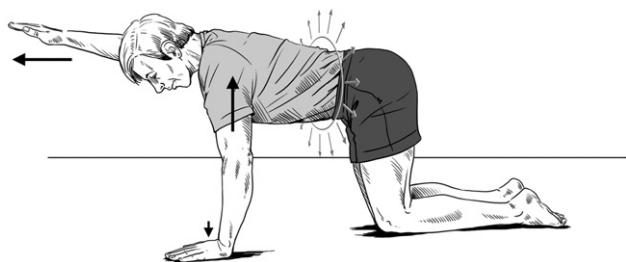


Figure 4 Quad Arm Reach.

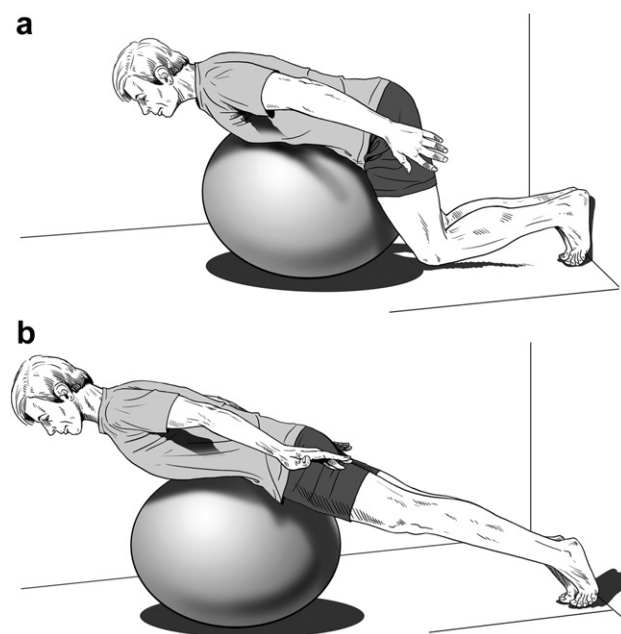


Figure 6 (a) start position (b) final position

Sets/ reps/ frequency:

- Perform 1 set
- 8–12 repetitions
- 1–2×/day

Troubleshooting:

- If the Bird Dog is hard to control then perform the easier Quad Arm Reach and progress to the Quad Leg Reach (see Figures 4 and 5)

Superman

Start:

- Kneel on the floor with your feet against a wall
- Pull a gymnastic ball in tight against your thighs and place your abdomen over the ball
- Arch your back slightly so that you are sticking your buttocks out
- Raise your arms so your hands are next to your hips (see Figure 6a)

- Turn your palms so they are facing down and spread your fingers apart

**Technique:**

- Push off the wall until your body straightens up
- Balance on the ball until you are on the tips of your toes (see [Figure 6b](#))
- Hold this position for a few seconds
- Then return to the start position

**Avoid:**

- Slouching over the ball
- Poking your chin out
- Arching up so much you are creating a sway back

**Sets/ reps/ frequency:**

- Perform 1 set
- 8–12 repetitions
- 1–2×/day

**References**

- Biering-Sorensen, F., 1984. Physical measurements as risk indicators for low-back trouble over a one-year period. *Spine* 9, 106–119.
- Luoto, S., Heliovaara, M., Hurri, H., Alaranta, H., 1995. Static back endurance and the risk of low-back pain. *Clin Biomech* 10, 323–324.