

How to Develop the Lower Abdominals

Simple but powerful exercises to achieve abdominal strength and coordination

Part II

BY KIM GOSS

Do you know someone who suffers from “The Britney Spears Syndrome?” Do you know what causes this condition, how many Americans are affected by it, and how it can be successfully treated? What’s that, you say, you’ve never heard of the Britney Spears Syndrome, and for that matter can’t imagine why *BFS* is even discussing this tabloid sensation? Let me explain.

The Britney Spears Syndrome, a term coined by fitness writer Chad Waterbury, occurs if you overly develop

the abdominal muscles, because then you will look significantly bulkier in the midsection than you really are – unless you keep your bodyfat at extremely low levels. Waterbury says the reason it’s called the Britney Spears Syndrome is that when Britney first started doing music videos she had a very small waist. Then she started working with trainers who had her doing hundreds of reps of abdominal exercises every day. Her waist got thicker, and whenever she gained any bodyfat the tabloids would jump at this and suggest that Britney was becoming obese or perhaps was

Chloe VanTussenbroek displays excellent abdominal muscles. Chloe is a Level 10 gymnast from the Olympus School of Gymnastics in Sandy, Utah.

even pregnant.

The Britney Spears Syndrome aside, it’s a matter of course to see athletes performing hundreds of repetitions in such exercises as hanging leg raises, sit-ups and crunches. Core training has become an obsession for everyone, not just pop princesses. Unfortunately, as explained in part I of this series, the bad news about all this emphasis on “core”

training practice is that if you don't pay attention to the lower abdominal musculature, such training may be doing as much harm as good by increasing the risk of injury and inhibiting athletic performance.

The good news is that athletes can quickly develop strong lower abdominals by adding a few sets of a specific exercise to their conditioning programs – an exercise I'll describe that is easy to learn and requires no special apparatus such as those shown in infomercials. Then I will present a follow-up exercise that will help develop coordination between the upper and lower abdominals – coordination that will help improve athletic performance and prevent injuries. Do I have your attention?

Testing and Training the Lower Abs

In Part I, I described a test to determine the strength of the lower

After you achieve a base of strength with the lower abdominal raise, you should begin performing exercises that involve coordination between the upper- and lower abdominal muscles.

FIGURE 1



abdominals. This test is also an effective exercise to train the lower abdominals. Here is how you do it. Lie on your back, with your knees bent at 90 degrees, and place your hands just above your hip bone (Figure 1). Lift your elbows off the floor and rest your head on the ground (Figure 2). Now try to lift your hips straight up, keeping your upper legs perpendicular to the floor (Figure 3). While performing the movement, do not allow your knees to move toward your head or brace your elbows against the floor or raise your head.

When you first perform the

To perform the low ab raise the hips move straight up, keeping the upper legs perpendicular to the floor. Squeezing a medicine ball or a dumbbell between the knees are ways to increase resistance in this exercise, but a spotter should be used with these variations.

FIGURE 3

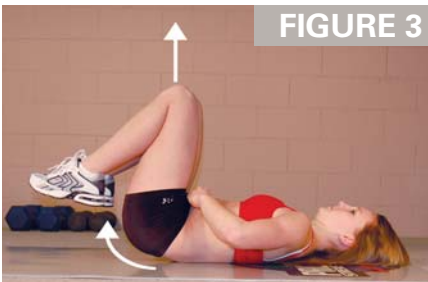
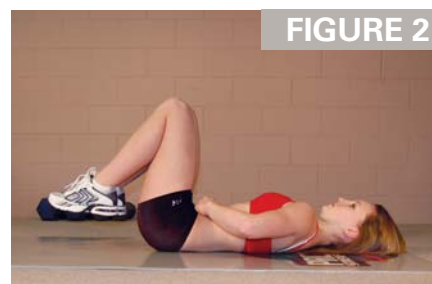


FIGURE 2



The start position of the low ab raise is with the fingers placed just below the bellybutton during, head down and elbows lifted off the floor.

exercise, your hips may not move; but as long as you feel the muscles contracting, the area is being strengthened. Eventually the lower abdominals will strengthen so that your hips will lift off the floor.

Don't get discouraged! I've tested hundreds of competitive figure skaters on this exercise, several who have competed in the Olympic Games, and only a few could perform this exercise properly the first time they tried. The only gymnast I've tested so far who could pass this test the first time she tried is Maegan Snodgrass, a Level 10 competitor I train who is also an American record holder in weightlifting – so she doesn't count. In fact, the Level 10 gymnast demonstrating this

FIGURE 4

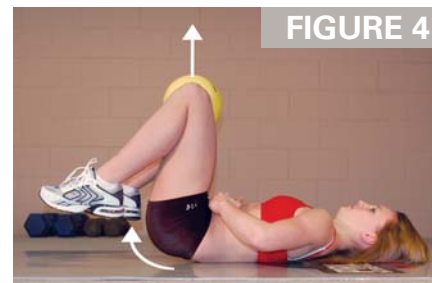


FIGURE 5

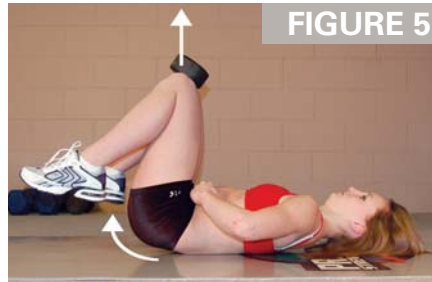
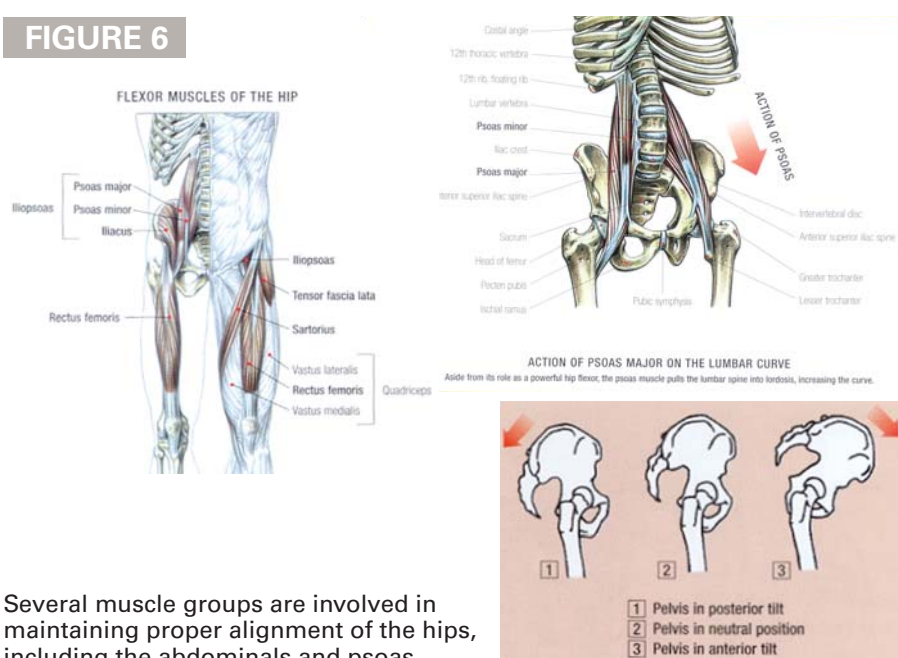


FIGURE 6



Several muscle groups are involved in maintaining proper alignment of the hips, including the abdominals and psoas.

exercise, Chloe Van Tussenbroek, had to practice this exercise for several weeks to be able to properly perform it.

To make the exercise more difficult, simply squeeze a medicine ball between your knees (Figure 4) or have a partner apply manual resistance to the top of the knees. As shown in Figure 5, you can also place a dumbbell between your knees. Paul Gagné, the Canadian strength coach who told me about these training methods, says he has athletes use up to 100 pounds in this exercise! However, because it's easy for the weight to slip with this method and possibly cause an injury, it would be a good idea to have a training partner

lightly hold the ends of the dumbbell to prevent it from dropping on you. The spotter should also assist in placing the weight between your knees and in removing the weight when the exercise is completed.

As far as reps and sets are concerned, regardless of which version of this exercise you perform, you should work the muscles for about 60 seconds per set. Because of the short range of motion of this exercise, you will complete the repetitions relatively quickly. Thus, a workout of 2-3 sets of 15-20 reps could be considered an appropriate exercise prescription for many athletes,

and the movement can also be performed before practice as a warm-up. That being said, it's important to avoid jerky movements when performing the exercise; instead, slowly lift your hips up and down, even pausing briefly at the top of the motion.

The Next Step: Abdominal Coordination

After you achieve a base of strength with the lower abdominal raise, you should begin performing exercises that involve coordination between the upper- and lower abdominal muscles, and many of the muscles that anteriorly rotate the pelvis (Figure 6). I first heard about this exercise from the popular physical therapy textbook *Muscles: Testing and Function* (by Florence Kendall and others).

The exercise is essentially a straight-leg raise, the difference being that you'll need to keep the lower back pressed against the floor during the movement. While Kendall's textbook points to using this exercise primarily to test and strengthen the rectus abdominus and external obliques, Gagné says this is a great exercise for testing and training the overall coordination of the abdominal muscles and the muscles that flex the hip.

To perform the test, which will determine how you should be able to use the exercise for strength training, have a partner place their hands underneath your lower back, lightly touching the vertebrae directly under your belly-button. Extend your legs until they are perpendicular to the floor, as shown in Figure 7. Now press your spine against the floor and slowly lower your legs, with your partner holding their hands a few inches away from your ankles so that your legs don't collapse to the floor (Figure 8).

To score 100 percent on the test,



FIGURE 7



FIGURE 8

The leg lowering test assesses coordination between the upper and lower abdominals.

a male would have to lower their legs all the way down without arching the lower back, and a female to about 15 degrees from the floor. The difference in the two standards is due to the fact that women carry more of their total muscle mass in their lower extremities.

As soon as you start to lift your back, that is approximately the position that you will use to start the exercise. In Figure 9, Chloe is demonstrating the starting position for the exercise for an athlete who can lower her legs approximately 45 degrees before arching. The athlete slowly lowers the legs to the platform (Figure 10), and after the feet touch the platform pulls the knees in (Figure 11) and returns to the start. Of course, if you can only lower your legs a few degrees before arching your lower back, you will need a higher platform (a BFS adjustable 3-in-1 box squat bench is ideal for this exercise, as

After an athlete determines their level of abdominal coordination, they can perform the leg lowering exercise by themselves.



FIGURE 9



FIGURE 10



FIGURE 11



Canadian strength coach and posturologist Paul Gagné is one of the foremost authorities in the world on proper abdominal training for athletes.

you can lower the bench in one-inch increments.)

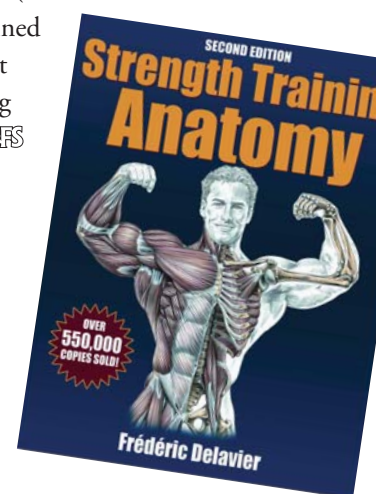
The number of repetitions performed depends upon the range of motion of the exercise; if the platform used is high, then more repetitions can be used than if the exercise is performed with a lower platform. As a general guideline to ensure an adequate training effect, perform the exercise for at least one minute.

As you progress to the position where you would pass the test, you would start performing the straight-leg raises (starting and ending at the top position), lowering to the point just before your back starts to arch. Soon you should be able to perform the exercise properly through the full range of motion. There are many ways to increase the resistance: A partner can apply manual resistance, you can hold a medicine ball between your legs, or you can use ankle weights. If you hold any resistance between your ankles, such as a dumbbell, you **MUST** use a spotter to prevent the weight from dropping on you.

A word about breathing: For both of the exercises mentioned in this article, to increase the muscle training effect you should slowly release your air

as you perform the lifting portion of the exercise. For the leg-lowering version of the coordination exercise, you would exhale as you lower your legs to the platform.

One physical attribute that sets great athletes apart from good athletes is tremendous abdominal development. In fact, many athletes often display chiseled, rock-hard abs that rival those of the best competitive bodybuilders. Go ahead and train the abdominals hard, but be certain to include these two exercises to ensure that you not only look like an athlete (or a *properly* trained celebrity!) but also are strong to the core. **BFS**



The illustrations for this article were taken from *Strength Training Anatomy 2nd ed.*, available from Human Kinetics, www.humankinetics.com

3-in-1 squat box

\$189
#400447
Stock Price



Sit and reach



- Shown in custom
- Call for custom pricing



Box Squat

Straight leg dead lift



Bigger Faster Stronger
1-800-628-9737

Solid steel construction with non-slip diamond tread footplate

Fax (801) 975-1159 • biggerfasterstronger.com • 843 West 2400 South • SLC, UT 84119
info@bfsmail.com

We've got your **Hex Bar!**

Specialized Hex Bars to fit your program needs.

Original Hex Bar

\$99

#340181



High Hex Bar

\$119

#340178



Combo Hex Bar

\$149

#340179



Mega Hex Bar

\$189

#340180



Youth Hex Bar

\$119

#320074



BIGGER FASTER STRONGER



Bigger Faster Stronger · 843 West 2400 South, Salt Lake City, UT 84119
1-800-628-9737 · Fax (801) 975-1159 · www.biggerfasterstronger.com · info@bfsmail.com