

Abdominal & trunk stability



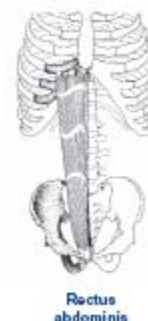
Poor abdominal control can result in many associated problems for sports people. Symptoms may include low back pain, hamstring, groin pain or tears, knee pain and lower leg and foot problems, associated tightness in muscles (e.g hip flexors, hip external rotators and weaknesses in other muscles (e.g hip extensors/buttocks) are often all part of the signs of poor abdominal control.

Treatment of the symptoms may only result in temporary relief unless abdominal control is assessed and treated appropriately. Poor abdominal control can be observed (eg. In a runner whose pelvis tilts forward or in a sprinter who has a lot of lateral swaggar).

The abdominal muscles are made up of:

1. The rectus abdominus (at the front of the trunk). This muscle mainly flexes the vertebral column and helps to compress the abdomen.
2. The transversus abdominus - an extremely important muscle which forms a sheath from the lower ribs to the pelvis. It plays a huge part in controlling the pelvis and lumbar spine.
3. The obliques (external and internal). These muscles are also sheath like in appearance and run in a wide attachment from the pelvis to the ribs. Their main action is to laterally flex and rotate the spine, but also to stabilise the trunk.

The transversus and oblique muscles are the main stabilisers in the lower trunk along with the latissimus dorsi muscle which is a large flat muscle extending from the back of the pelvis to the shoulder. The rectus muscle, commonly known as the "6 pack" muscle is less involved and by doing traditional sit ups will not result in good abdominal control.



Rectus abdominis



Obliquus externus



Obliquus internus

Examples of some exercises to gain pelvic control:

Hook-Lying Extremity Flexion
Tighten stomach muscles and slowly lower one arm over head until you feel your back begin to arch.



Hook-Lying Combination
Tighten stomach muscles as you slowly raise one leg and lower opposite arm over head.



Bridging with Straight Leg Raise
Begin by lifting buttocks 6 to 8 inches from floor, then slowly extend one knee keeping stomach straight.



Quadruped Opposite Upper and Lower Extremity Extension
Tighten stomach and simultaneously raise leg and opposite arm.



Backward Lean in Kneeling
Slowly lean backward, keeping stomach tight and trunk rigid.

Wakefield Sports Clinic

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