

The Importance of Restoring Abdominal Strength Following Pregnancy and Child Birth

There is a lot of talk out there about abdominal exercises following pregnancy and child birth. Most women who have given birth will have at some stage been told that they should be doing abdominal strengthening. Why is this so important? And how can you ensure you are doing it safely?

The role of your abdominal muscle complex is to:

- (a) produce trunk movement (rectus abdominis and obliques)
- (b) stabilise the pelvis (transverse abdominals)
- (c) restrain the abdominal contents

During your pregnancy, the weight and dimensions of your uterus and its contents increases causing your abdominal muscles to stretch. Your expanding abdomen produces increases in abdominal muscle length. In some women the left and right sides of the rectus abdominal muscle separate (diastasis) and remain separated post birth for several weeks. It can become more sever with each consecutive pregnancy due to repeated episodes of stretching. An overstretched or lengthened muscle loses tension and therefore becomes weakened.

Studies have shown that by 26 weeks in to pregnancy the ability to perform a sit-up type abdominal exercise is diminished and by 38 weeks is severely compromised.

Similar studies have shown that while the ability to perform a sit up and other trunk movements (function of the rectus abdominis and obliques) improves following child birth, the ability of the transverse abdominals to stabilise the pelvis post birth remains compromised.

If you have weakness around your transverse abdominals, then the action of other muscles such as your big leg muscles, back muscles and other abdominal muscles is going to cause unwanted movement around your pelvis and spine. This unwanted movement means that forces generated by you moving are transferred to other parts of your body. This transfer of force then leads to injury. A simple example of this is leaning over the cot or bath to pick baby up. If your transverse abdominals can't support your pelvis properly, the load is transferred to your lower back and can in time cause low back pain.

Similarly, physical exercise can result in low back pain or lower leg injuries if you are unable to stabilise your pelvis while exercising.

It's not only the physically active who are at risk. Your abdominal muscles also function to stabilise your pelvis while sitting thereby assisting with good sitting posture. Transverse abdominal weakness can therefore lead to altered sitting posture putting increased strain on your lower back.

Mothers with young babies are therefore at risk of developing low back pain or other injuries due to a combination of factors

1. Reduce abdominal strength leading to poor pelvic or core stability
2. Increased periods of sitting while getting breastfeeding established
3. Increased strain on lower back due to bending over cots/baths, lifting baby, carrying car seats, lifting buggies in to the boot of the car etc.

Therefore restoring pelvic stability following pregnancy can decrease the likelihood of low back pain and other injuries.

Which exercises are best??

As I've mentioned above it is the stabilising part of your abdominal muscle complex (your transverse abdominals) which remains the most compromised following child birth. When choosing an abdominal strength programme (or core strength programme) following child birth you need to choose one that targets your transverse abdominals rather than a general abdominal strength programme.

You also want to choose one where the exercises don't require your abdominal muscles to generate too much tension. The focus should be on stability initially. Doing an exercise that requires a lot of tension will target the moving part of your abdominals and you risk further injury as your transverse abdominals aren't able to stabilise sufficiently to support this.

It is important to note that abdominal muscle strengthening can begin as soon as the mother is feeling comfortable following child birth, and provided there have been no complications. If you have had a c-section then it is best to wait until you have had your 6 week check and discuss it with your GP or specialist.

In Summary

The ability of the abdominal muscles to stabilize the pelvis against resistance has been shown to be compromised by the third trimester of pregnancy. Continued functional weaknesses have been observed post birth more so in the transverse abdominals than in other muscles of the abdominal complex.

Rehabilitation of the pelvic girdle using specific stabilising exercises targeting the transverse abdominals can improve function, and reduce the risk of injury during the postpartum period.

References:

Gilleard., W. Brown, J. Mark. (1996) “*Structure and Function of the Abdominal Muscles in Primigravid Subjects During Pregnancy and the Immediate Postbirth Period.*” Physical Therapy, Vol 76. Number 7.

Stuge, B., Laerum, E., Kirkesola, G., and Vollestad, N. (2004) “*The efficacy of a treatment program focusing on specific Stabilising Exercises for Pelvic Girdle Pain after Pregnancy. A Randomised Controlled Trial.*” Spine 29:351-359

Rachael Burke
BHSc(Phty), Dip MT, MNZSP
www.physiofixme.co.nz