



## HOW TO IMPROVE ABDOMINAL DIASTASIS WITH LOW PRESSURE FITNESS ?

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# WHAT IS ABDOMINAL DIASTASIS?

Abdominal diastasis (diastasis recti) is very common during and after pregnancy, existing a 30%-70% prevalence during pregnancy and the postpartum period (Mota, Pascoal, Sancho, Bø, 2012). The epidemiological data varies greatly, as there is still no consensus on what value is considered clinically relevant (Rett, Braga, Bernardes, Andrade, 2009). In general, a 2,5cm separation can be considered as diastasis. During pregnancy, the midline muscles (linea alba) recede to accommodate the gestation.

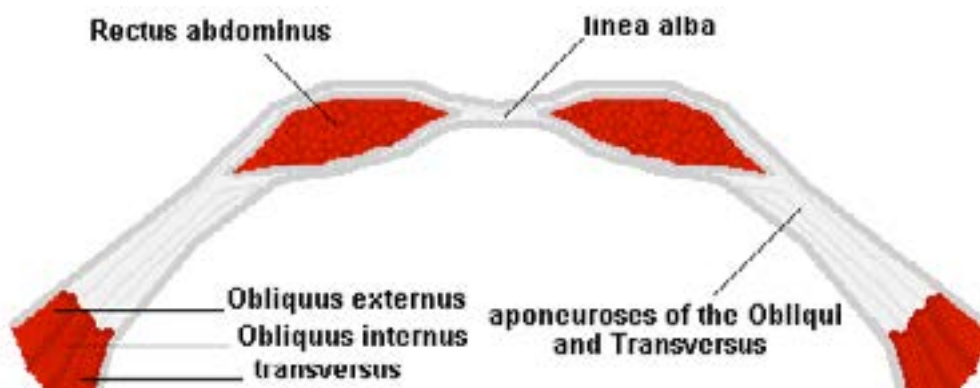


Figure 1. Linea alba separation with and without diastasis recti.

During pregnancy, the hormonal changes caused by relaxing, progesterone and estrogen, combined with the uterine growth, cause an abdominal muscles stretching, mainly affecting the rectus sheath. It should be noted that the pelvic tilt, with or without lumbar hyperlordosis, affects the pelvis insertion angle and the abdominal muscles, influencing potural biomechanics and generating a deficit in the abdomino-pelvic organ support ( El-Mekawy , Eldeeb El-Lythy , El-Begawy ,2013).

Bustelo et al. (2004) suggest that the abdominal diastasis dimension is always a reflection of the degree of hypotonia in the abdominal band.

This is linked to lumbopelvic instability and pelvi-perineal musculature weakness (Benjamin, Van de Water and Peiris, 2014). In fact, in a study carried out by Spitznagle, Che Leong and Van Dillen (2007) they found that in a population with genitourological pathology, diastasis was present in more than 50% of the cases. It is thought that there is a significant relationship between the presence of diastasis recti and the diagnosis of pelvic floor disorders, such as stress incontinence, fecal incontinence and pelvic organ prolapse.

After the pregnancy, the musculature should naturally return to its former position, but sometimes it is extremely difficult, and occasionally it never returns to its initial size (Fig. 2).

This separation reduces the integrity and functionality of the abdominal wall, and can causes lumbar pain and lumbo-pelvic instability.. For this reason, recovery is very important, both from a purely aesthetic point of view, and for the stabilizing role of the abdominal muscles for posture and motor efficiency.



Figure 2. Diastasis recti before, during and after pregnancy.

## HOW TO ASSESS ABDOMINAL DIASTASIS ?

A routine genitourological examination includes an assessment of the abdominal musculature, and establishes whether abdominal diastasis recti is present or not (Spitznagle et al. , 2007).

In modern medical and therapeutic practice, there are several methods to assess abdominal diastasis. Some of them are:

### 1. Ultrasound.

Ultrasonography is the most reliable and accurate diagnosis method, both at rest and in exertion, showing very high correlation coefficients (Mota et al. 2012). However, it requires expensive equipment and extensive preparation of the assessor (Chiarello and McAuley. 2013) which not all therapists can afford.



Figure 3. Assessment of the distance between recti via trans-abdominal ultrasonography. (Image from Nucleus Medical Media©, Inc.)

### 2. Caliper.

A caliper is an instrument used to measure the distance between two opposite sides. It can read the final fraction of a millimeter or inch in a simple line, and it is much less expensive and more affordable than ultrasonography. In a study carried out by Boxer and Jones, they used a dial caliper to measure the gap between supra and sub-umbilical area (4.5 cm), with high accuracy between both measures.

In a more recent study, they compared the caliper and ultrasound validity as assessment tools, and it was concluded that the caliper is a more reliable instrument to measure the recti distance in the supra-umbilical area. However, for sub-umbilical assessments, there was not a high correlation (Chiarell and McAuley, 2013). This could be due to the abdominal morphology difference in the sub-umbilical area.

Figure 4. Assessment of abdominal rectus diastasis (Image from: Bustelo et al. , 2004).



### 3. Palpation.

Palpation is the most common method to assess the separation of the linea alba (Mota, Pascoal, Sancho, mackerel , Bø, (2013). If we don't have access to an ultrasound test, clinical assessment through palpation is a very good tool. There is a good correlation between the two tests, as proved in a recent study by Barbosa, Moreira de Sa, and Coca-Velarde (2013).

To assess the degree of diastasis with the palpation test, we must place the fingertips of the index and middle fingers on the umbilical area, and ask the patient to perform an anterior flexion with his head and neck, as shown in fig 4. The test result would be positive when the separation between the two rectus femoris "bellies" is larger than 2.5 cm. This test will be performed next on a supra and sub-umbilical level (Bustelo et al. , (2004).

## WHAT EXERCISE CAN I DO TO RECOVER FROM POSTPARTUM DIASTASIS?

A recent study on the effects of therapeutic physical exercise for postpartum abdominal diastasis concludes that exercise could help to reduce and prevent diastasis recti, but there are not enough scientific studies on this subject (Benjamin et al. , 2014).

Among the recommendations from the Spanish Association of Physiotherapists (AEF) in relation to the late and immediate postpartum period, is the performance of hypopressives techniques.

Along these lines, there are numerous health professionals, such as midwives and physiotherapists, who follow this recommendation, and even in web-pages dedicated to postpartum recovery, you can read about the benefits of hypopressives exercises as "POSTPARTUM PHYSICAL FITNESS".



## TESTIMONIAL AND RESULTS

Every day more and more physiotherapists and personal trainers achieve excellent results with the Low Pressure Fitness - Hypopressives. Along similar lines, Hypopressives specialist trainer, Quitana (2014), in a study on the effects of a 3 months (once a week) hypopressives exercises program in 44 women (with an average age of 45.6 years old) observed a significant decrease in the diastasis (1.1 cm).

The strong postural and breathing action exerted by the hypopressives techniques has a direct effect on the abdominal musculature, slowly reverting the "corset effect" action lost during pregnancy (figure 5).

Besides abdominal diastasis recovery, sticking to a physical exercise program, such as Low Pressure Fitness, to re-educate the abdomino-perinael area, it benefits greatly other important aspects of the immediate and late postpartum recovery, such as:

- Restore body posture.
- Reduce waist circumference.
- Recover pelvic floor tone and sexual function.
- Reduce myofascial tension.
- Relieve urinary incontinence symptoms.
- Improve lower limbs vascularization.

In order to get help with Low Pressure Fitness during the postpartum period, it is recommended to follow the advice of a professional.

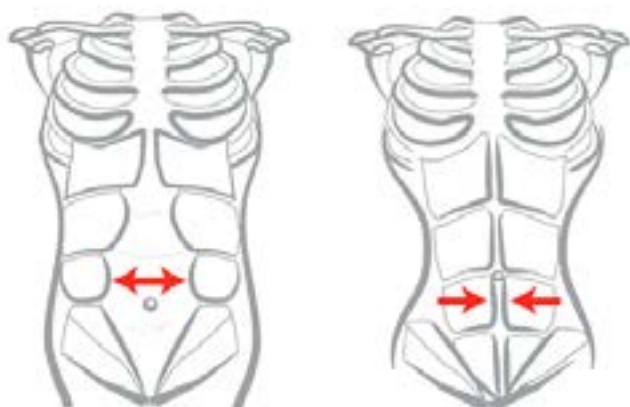


Figure 5. Reduction of the distance between rectis through abdominal muscles toning.

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