

## Low Pressure Fitness: a Healthcare rEvolution

There is so much talk about training the core: the group of muscles that surround the spine and abdominal viscera, yet the intraabdominal pressure (as well as the very important muscles that are at the base of the core), are hardly ever mentioned or taken into in-depth consideration in prescribing exercises for both men and women.

Over the past decades, core training has become a popular trend in fitness for trunk and spinal stabilization to prevent lumbar and musculoskeletal injuries. The importance of core muscle strength and stability for athletes to prevent lower extremity injuries and has been demonstrated by the literature. In order to completely understand the concept of core stability, it is essential to be aware of the role that each muscle plays in the complete scheme of coordinated movement. The pelvic floor or perineal group of muscles serve as the base of support of the core.

### LPF

In recent years, **Low Pressure Fitness** (LPF) has brought a revolution to the field of physical therapy as an exercise alternative for pelvic floor training. LPF is based on the hypopressive exercise method, postural rehabilitation and myofascial techniques and has become very popular among European health and fitness professionals.

Traditionally, pelvic floor muscle contractions known as [Kegel exercises](#) (Kegel, 1948) have been used to improve the strength of the pelvic floor muscles focusing the attention on the **active support system** (musculature). Systematic reviews of randomized controlled trials in the general female population conclude that there is supporting evidence for the effectiveness of Kegel exercises as a conservative treatment for pelvic floor dysfunctions such as stress urinary incontinence (Duomolin & Hay-Smith, 2010). Nevertheless, we also have to recognize the importance of the **passive support system** of the pelvic floor (connective tissue) because it is necessary for the achievement of an **optimal balance between the myofascial tissue and the elasticity of the pelvic structures**. These factors are decisive in maintaining the optimal function of the pelvic floor.

Low Pressure Fitness training can be a **useful tool for improving both active and passive support systems**. This method can easily be incorporated into a variety of previously designed approaches with the client's goals in mind. Let's learn a bit more about how Low Pressure Fitness works.

The core or cylinder formed by the diaphragm (at the top), the pelvic floor (bottom) abdominal (front) and lumbar (back) muscles all work synergistically to create stability for the spine and breathing mechanisms. An imbalance or excessive tone in any of these areas will have observable repercussions on the other parts of the cylinder. In this sense, the pelvic floor works in coordination and synergy with breathing and hence, with the diaphragm. Re-training the breathing patterns will improve abdominal muscle stability, and at the same time will enhance the pelvic floor function. **Low Pressure Fitness, is a postural and breathing program that retrains respiratory function through specific breathing exercises while rebalancing postural muscles.**

Some of these breathing exercises are done in association with the abdominal vacuum maneuver or rib cage lift. Consequently, the [diaphragm rises and pulls up the pelvic viscera and fascial connections](#). This maneuver causes a decrease in intraabdominal pressure, tones the deep abdominal muscles and stretches the vaginal connective tissue. This myofascial stretching also

leads to an increase of pelvic peripheral vascularization. All together, these will enhance mobility in the pelvic area as a global body readjustment.

## Benefits

Understanding the importance of the pelvic floor, brings us to the consideration of who can benefit from the Low Pressure Fitness technique. Whereas the hypopressive exercise method was developed to rehabilitate post-partum women with pelvic floor dysfunctions, it then became useful in treating post-menopausal women as well. However, more recently due to its effects on intraabdominal pressure, it has become very useful in treating highly trained elite male and female athletes as well as advanced fitness enthusiasts, who through the stress of high impact activity and the dysfunction of the deep abdominal muscles, find themselves succumbing to exercise induced urinary leakage, pelvic organ prolapse, prostatitis and umbilical, inguinal, etc. hernias.

Exercise-induced leakage is a specific form of stress urinary incontinence that results from engaging in high-impact or strenuous activities. Incidence of urinary incontinence varies between 28 to 80%, with the highest prevalence in activities which involve motor patterns that include jumping, landing and running. Of note, gymnastics (67%), athletics (62.2%) and [trampolining \(80%\)](#) are the top of the list. Note that many of these athletes are young and nulliparous.

**Pelvic floor issues** are conditions that [may limit participation in athletic activities](#) and significantly impact the quality of life. Unfortunately, they are rarely recognized by sport medicine, coaches and fitness professionals. Understanding the supporting role of the pelvic floor for core stability is **essential to provide knowledge and incorporate specific preventive training programs for female athletes and fitness enthusiasts**. In addition, it is essential to promote early detection for coaches and incorporate preventive pelvic floor training programs for female athletes.

## Summary

As a combination of postural exercises inspired by the Mezières and Suchard techniques along with the yogic Uddiyana Banda breathing, Low Pressure Fitness facilitates hypopressive exercises for both the health or fitness professional as well as the client. LPF can be integrated into all fitness training routines, substituting traditional abdominal exercises or in personal training and small group classes. It is also geared to medical professionals who can use the LPF teaching technique for their patients. The technique is taught in 3 levels, each one including appropriate cues, transitions, progressive overload, teaching tips and key items to recognize in the clients and can be implemented immediately upon completion of each level. Low Pressure Fitness gives the instructor the tools necessary to integrate hypopressive exercises in fitness classes and physical therapy.