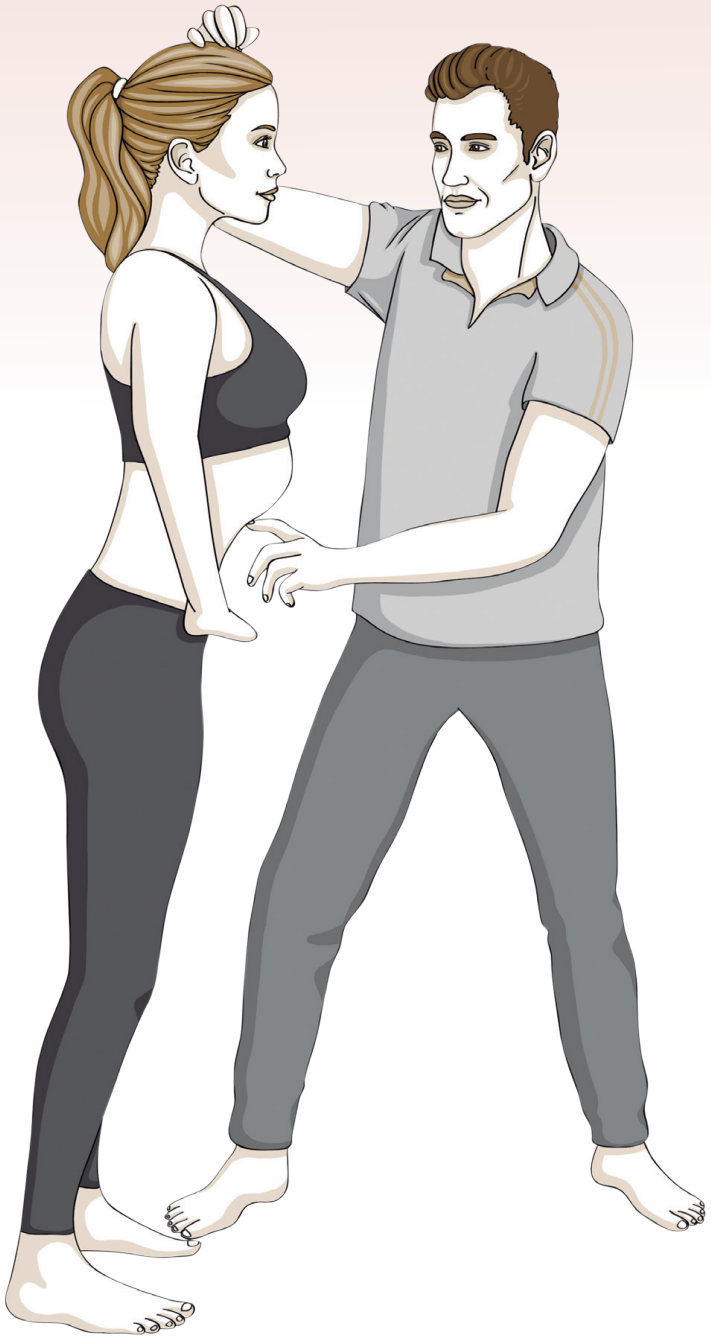
Low Pressure Fitness



RESOURCES MANUAL

Level 1

INTERNATIONAL HYPOPRESSIVE & PHYSICAL THERAPY INSTITUTE

The information contained in here is not intended to be a substitute for professional medical advice, diagnosis or treatment in any manner. Always seek the advice of your physician or other qualified health provider with any questions you may have regarding any medical condition or before engaging in any physical fitness plan.

Low Pressure Fitness

INDEX

LEVEL 1
Theory Videos

Lecture 1
Intro to Low Pressure Fitness - Background

vimeo.com/user68398659/review/461943945/2f864599ec

Lecture 2
The foundations

vimeo.com/461952154/d44425a0e3

Lecture 3
The core of LPF

vimeo.com/461966766/fdf04b71c6

Lecture 4
Practical applications of LPF

vimeo.com/461978120/9600622e0e

Lecture 5
Bonus Lecture:
LPF for Pelvic Organ Prolapse, Diastasis Recti and Postpartum Care

vimeo.com/751140109/b427a7b851

LPF Low Pressure Fitness

Ultrasound Assessment of the Abdominal Wall during a Hypopressive exercise

https://youtu.be/Bum5HO_eXrE

Ultrasound assessment of the pelvic floor during hypopressives

https://youtu.be/Qm27MO9Hhho

Pelvic Floor lift with Hypopressive Exercise

https://youtu.be/tyoEb3yMQlk

Pelvic Organ Prolapse: Effect of Hypopressives

https://youtu.be/6rgdEU82U5c

Hypopressive exercise and a pelvic floor contraction

https://youtu.be/bLpEA3FlkVc

Low Pressure Fitness inspiration: Yoga's Uddiyana Bandha

https://youtu.be/tn4d1mv4NOQ

LPF Low Pressure Fitness

Effectiveness of Massage Therapy and Abdominal Hypopressive Gymnastics in Nonspecific Chronic Low Back Pain: A Randomized Controlled Pilot Study

Bellido-Fernández, L., et al. Evidence-Based Complementary and Alternative Medicine, 2018, https://doi.org/10.1155/2018/3684194

Background. There are a great number of interventions in physiotherapy, but with little evidence of their effectiveness in chronic low back pain. Therefore, this study assesses effectiveness of Massage Therapy and Abdominal Hypopressive Gymnastics and the combination of both to decrease pain and lumbar disability while increasing joint mobility and quality of life in patients with chronic nonspecific low back pain. ***Methods.*** A randomized, single-blinded, controlled, clinical trial with sample () was comprised of patients between 20 and 65 years, diagnosed with pain of mechanical origin characterized by having a duration of at least 12 weeks and no serious complications. Each group received 8 interventions of 30 minutes. ***Results.*** Friedman ANOVA test obtained statistically significant differences of Oswestry, NRS, and Schober variables () in the three measurements (pretest, posttest 1, and posttest 2), in each individual group. ANOVA Kruskal-Wallis test was used for comparison between groups, and Oswestry Disability values were significantly higher () in the group receiving both treatments. ***Conclusion.*** Both individual groups reduce pain levels, improve disability, and increase the flexibility of the lumbar spine. The combination therapy provides greater benefits in terms of lumbar disability. This study is registered on March 8, 2016, with NCT02721914.

LPF Low Pressure Fitness

A case study of hypopressive exercise adapted for urinary incontinence following radical prostactetomy surgery

Chulvi-Medrano I, Rial Rebullido T. Fisioterapia. 2018,
https://doi.org/10.1016/j.ft.2018.01.004

Background and objective. Post-prostatectomy urinary incontinence is the most common secondary complication from surgery and negatively affects quality of life. Although the training of the pelvic floor muscles is one of the most recommended options for the conservative treatment of post-prostatectomy urinary incontinence, in the past few years hypopressive exercise (HE) has gained popularity as an alternative method. The purpose of this study was to describe the protocol and clinical outcomes of an intervention based on HE combined with contraction of the pelvic floor muscles in a case of post-prostatectomy urinary incontinence. ***Case report.*** The patient was a 46-year-old male with persistent incontinence 6 months after surgery. Initially, the patient used up to 3 incontinence pads daily and presented with severe stress urinary incontinence. The assessment, based on the International Consultation on Incontinence Questionnaire-Short Form, revealed a score of 15. ***Intervention.*** The 30-week protocol consisted of one weekly supervised session of 8 HE combined with contraction of the pelvic floor muscles. In addition to the supervised sessions, after 12 weeks of training, 3 HE were performed at home once per week. ***Results.*** Following 48 sessions over 30 weeks, the patient no longer used pads and reduced the symptoms and severity of urinary incontinence with a score of 6 on the International Consultation on Incontinence Questionnaire-ShortForm. ***Discussion.*** Good progress was made after 30-weeks of physiotherapy treatment.

LPF Low Pressure Fitness

Muscle response during a hypopressive exercise after pelvic floor physiotherapy: assessment with transabdominal ultrasound

Navarro Brazález, B, Torres Lacomba, M et al. Fisioterapia, 2018, https://doi.org/10.1016/j.ft.2017.04.003

Objective. To use transabdominal ultra sound imaging to assess pelvic floor and abdominal muscle function during a hypopressiveexercise. ***Material and methods.*** A cross-sectional study was conducted on 30 women who had previously finished a two-month individual physiotherapy treatment based on hypopressive exercises. The women were instructed to perform a hypopressive repetition that involved holding the breath after an exhalation of up to expiratory reserve volume. Breathing was held for 10 s during which participants tried to expand their ribcage and to bring the abdominal wall to a posterior and superior position. Transabdominal ultrasound assessment was performed in supine position, with pelvic floor muscle action being recorded above the pubis bone in mid-transversal and mid-sagittal planes by using a curved lineal array probe at a frequency of 3.5 MHz. In order to measure the increase ofthe cross-sectional area of abdominal muscles, the cross-sectional area of abdominal muscles, a straight lineal array ultrasound transducer was used, being placed transversely on the right side of the abdominal wall. ***Results.*** The whole sample achieved an elevation of the pelvic floor muscles during the hypopressive exercise with a median (interquartile range) of 6.8 (3.7) mm in transversal plane and 4.6 (4.7) mm in sagittal plane. The transverse abdominis muscle, internal oblique muscle, and external oblique muscle increased their thickness by 1.8 (1.2) mm, 1.5 (1.9) mm, and 0.5 (1.4) mm, respectively (P<.05). Rectus abdominis muscle showed a tendency to decrease its thickness, although there were no statistically significant differences (P=.48). ***Conclusions.*** Hypopressive exercises achieved elevation of pelvic floor muscles without a direct contraction command. Deep abdominal muscles also contracted during a hypopressive exercise.

LPF Low Pressure Fitness

Abdominal and pelvic floor electromyographic analysis during abdominal hypopressive gymnastics

Ithamar L, de Moura Filho AG, Benedetti Rodrigues MA, Duque Cortez KC, Machado VG, de Paiva Lima CRO, et al. J Bodywork Mov Ther. 2017
https://doi.org/10.1016/j.jbmt.2017.06.011

Introduction. Abdominal hypopressive gymnastics appeared as an alternative to traditional abdominal exercises to promote abdominal muscles strength without overloading the pelvic floor muscles (PFM). To determine the activation level of abdominal muscles and PFM and the posture influence in the level of activation in these muscles during abdominal hypopressive gymnastics, we used surface electromyography in young and healthy multipara women. ***Methods.*** This is an observational study with eutrophic nulliparous women aged between 18 and 35 years, with abdominal skinfold less than or equal to 3 cm and active or irregularly active physical activity. Surface electromyography was used for rectus abdominis, external oblique, transversus abdominal/internal oblique (TrA/IO) and PFM assessment in the supine, quadruped and orthostatic (upright standing) positions during abdominal hypopressive gymnastics using normalized electromyographic (%EMG) data. We also analyzed the difference in activation between each muscle and between muscles and positions. ***Results.*** Thirty women were evaluated and the mean age was 25.77 years (SD 3.29). The group formed by the TrA/IO muscles and the PFM showed higher %EMG in all the positions assessed, followed by the external oblique and rectus abdominis muscles. A comparison of %EMG of each muscle between the different positions showed differences only in rectus abdominis between the supine and quadruped ($p = 0.001$) and supine and orthostatic positions ($p = 0.004$), and in TrA/IO between the supine and orthostatic ($p = 0.023$) and orthostatic and quadruped positions ($p = 0.019$). ***Conclusions.*** The results suggest that abdominal hypopressive gymnastics can activate the abdominal muscles and PFM and the position do not have influence on electromyographic activation level of the PFM and external oblique.

LPF Low Pressure Fitness

Effects of abdominal hypopressive gymnastics in the volume distribution of chest wall and the electromyographic activity of the respiratory muscles

V. Machado, A. Dornelas de Andrade, C. Rattes, G. Fregonezi, V. Galindo Filho, A. Lemos, Physiotherapy, 101,1, E322-E323, 2015, https://doi.org/10.1016/j.physio.2015.03.524

Background: Abdominal Hypopressive Gymnastics (AHG) can be defined as a set of postural techniques that synergistically ativaste the muscles from the pelvic floor and abdomen. This method has been used in the treatment of urinary and fecal incontinence, pelvic organ prolapse and the prevention of postpartum perineal strengthening. Furthermore, this technique has also been proposed as a therapeutic resource in postural alterations and sports. During the performance of AHG may generate some effect on the respiratory system. Thus, it is possible that the manoeuvre can affect the elastic forces of the chest wall as well as the neurochemical control of breathing, due to apnoea and its maintenance in residual volume. Purpose: The aim of this study was to evaluate the regional distribution of lung volumes and electromyographic activity from the accessory muscles of respiration during the abdominal hypopressive gymnastic (AHG) in healthy women. ***Methods:*** It was a quasi-experimental, before and after study involving 35 nulliparous women, mean age 28.98 ± 2.74 years, normal body mass index and performing irregular active/light physical activity. Surface electromyography (sEMG) was used to assess the electrical activity of accessory muscles of respiration (sternocleidomastoid, scalene, and serratus anterior), and electro-optical plethysmography to assess the distribution of lung volume in the different compartments of chestwall. Participants underwent prior AHG training and performed the manoeuver for electromyographic and plethysmographic assessment. The comparison of three or more variables with normal distribution was analysed using the One-way ANOVA test, with subsequent application of the Bonferroni post-hoc test. Student's t test was used to compare two paired samples with normal distribution. For cases of non-normal variable distribution, the Wilcoxon test was applied, and we considered a significance level of 5% ($p < 0.05$). ***Results:*** We found that sternocleidomastoid, scalene and serratus anterior presented higher levels of activation in the orthostatic and sitting postures when compared to the supine posture. None difference was found in muscles activation in each posture. Tidal volume (Vt) reached higher levels after AHG compared to rest using the orthostatic (MD: −0.1 L, 95% CI −0.17 to −0.03, $p = 0.006$) and sitting postures (MD: −0.1 L, 95% CI −0.178 to −0.021, $p = 0.01$) and minute ventilation(VE) increased only using the orthostatic posture without interfering in the respiratory rate(RR). ***Conclusion(s):*** We observed in this study that Normal AHG was capable to activate accessory respiratory muscles in the orthostatic, sitting and supine postures. Thus, this technique possibly improves the process of pulmonary ventilation, without interfering in the respiratory rate. ***Implications:*** These results seem to be very promising, since it demonstrates any mobilization of lung volume without interfering the duration of respiratory cycles. Therefore, as a future perspective, AHG should be useful as an adjunctive therapy in the treatment of patients with obstructive lung diseases and others.

LPF Low Pressure Fitness

Effects of diaphragm stretching on posterior chain muscle kinematics and rib cage and abdominal excursion: a randomized controlled trial

González-Álvarez, F. J., Valenza, M. C., Torres-Sánchez, I., Cabrera-Martos, I., Rodríguez-Torres, J., & Castellote-Caballero, Y. Brazilian Journal of Physical Therapy, 2016 20(5), 405–411, https://doi.org/10.1590/bjpt-rbf.2014.0169

Background. Few studies have explored the effects of stretching techniques on diaphragm and spine kinematics. Objective: To determine whether the application of diaphragm stretching resulted in changes in posterior chain muscle kinematics and ribcage and abdominal excursion in healthy subjects. ***Method:*** Eighty healthy adults were included in this randomized clinical trial. Participants were randomized into two groups: the experimental group, which received a diaphragmatic stretching technique, or the placebo group, which received a sham-ultrasound procedure. The duration of the technique, the position of participants, and the therapist who applied the technique were the same for both treatments. Participant assessment (cervical range of movement, lumbar flexibility, flexibility of the posterior chain, and rib cage and abdominal excursion) was performed at baseline and immediately after the intervention by a blinded assessor. ***Results:*** The mean between-group difference [95% CI] for the ribcage excursion after technique at xiphoid level was 2.48 [0.97 to 3.99], which shows significant differences in this outcome. The remaining between-group analysis showed significant differences in cervical extension, right and left flexion, flexibility of the posterior chain, and ribcage excursion at xiphoid level ($p<0.05$) in favor of the experimental group. ***Conclusion:*** Diaphragm stretching generates a significant improvement in cervical extension, right and left cervical flexion, flexibility of the posterior chain, and ribcage excursion at xiphoid level compared to a placebo technique in healthy adults.

LPF Low Pressure Fitness

Effect of an abdominal hypopressive technique programme on pelvic floor muscle tone and urinary incontinence in women: a randomised crossover trial

L. Soriano, C. González-Millán, M.M. Álvarez Sáez, R. Curbelo, L. Carmona, Physiotherapy,108, 37-44, 2020, https://doi.org/10.1016/j.physio.2020.02.004

Objectives. To test the effect of a structured abdominal hypopressive technique (AHT) programme on pelvic floor muscle (PFM) tone and urinary incontinence (UI) in women. ***Design.*** Crossover trial with random assignment of women to one of two groups: Group 1 (AHT followed by rest) and Group 2 (rest followed by AHT). ***Setting.*** Two cultural centres in Madrid, Spain. ***Participants.*** Women aged 20–65 years. ***Interventions.*** Two months of supervised AHT exercises compared with 2 months of rest. ***Main outcome measures.*** Variation in PFM tone and score on the International Consultation on Incontinence Questionnaire -Short Form (ICIQ-SF)]. ***Results.*** Forty-two women were randomised to two groups (both n=21). No sequence or period effect was noted. The mean difference in PFM tone after the 2-month AHT programme was 59g/cm² [95% confidence interval (CI) 37 to 82]; the between-group difference was 83g/cm² (95% CI 50 to 116; P<0.001). After 2 months, the between-group difference in the ICIQ-SF score was 3.3 points (P<0.001). The majority of participants reported improved body image and sense of well-being. ***Conclusions.*** A structured 2-month AHT programme for women showed short-term benefits in PFM tone and UI. In addition, study participants reported improved body image and sense of well-being, and programme satisfaction, as demonstrated by questionnaire at the end of the intervention period. Further research is needed to test the long-term effects and effectiveness of AHT compared with other PFM exercises.
ClinicalTrials.gov Identifier NCT0221241.

LPF Low Pressure Fitness

Hypopressive technique versus pelvic floor muscle training for postpartum pelvic floor rehabilitation: A prospective cohort study

Juez L, Núñez-Córdoba JM, Couso N, Aubá M, Alcázar JL, Mínguez JÁ. Neurourol Urodyn. 2019;38(7):1924-1931. https://doi.org/10.1002/nau.24094

Aims: Abdominal hypopressive technique (AHT) is gaining popularity as an alternative to pelvic floor muscle training (PFMT) during postpartum. Although, there is no solid evidence for its recotmmendation. ***Methods:*** We conducted a prospective observational cohort study in a university hospital with 105 primiparae who performed a two-month PFMT or AHT program. The aim was to compare the effectiveness of both treatments in terms of morpho-functional changes in 3D transperineal ultrasound, manometry, dynamometry, and differences in urinary incontinence symptoms (ICIQ-IU-SF) and satisfaction. ***Results:*** The average change in levator ani muscle was 1.2 mm higher in AHT group vs PFMT (95% confidence interval [CI], -2.2 to -0.2; P = .017). No statistically significant differences were shown in maximal strength changes between groups. After AHT, basal tone change was 63.0 g/cm2 higher than PFMT (95% CI, -129 to 2.9; P = .06). A statistically significant reduction in ICIQ-IU-SF was observed after both treatments [(PFMT, -0.8 points; 95% CI, -1.4 to -0.1; P = .015), (AHT, -0.7 points; 95% CI, -1.3 to -0.1; P = .018]. AHT showed a higher median satisfaction score than PFMT (P = .004). ***Conclusions:*** This preliminary study is the first that analyses the effect of AHT vs PFMT during postpartum. The results suggest a higher improve for AHT in levator muscle thickness and satisfaction compared to PFMT. These must be considered with caution due to the limitations of the study. Further randomized clinical trials about both techniques during postpartum are required.

LPF Low Pressure Fitness

Preliminary study on the action of hypopressive gymnastics in the treatment of idiopathic scoliosis

Caufriez M, Fernández-Domínguez JC, Brynhildsvoll N.. Enferm Clin. 2011 21(6):354-8.
https://doi.org/10.1016/j.enfcli.2011.06.003

Our goal is to describe the results of a hypopressive gymnastics (HG) program applied to 3 children with idiopathic scoliosis. Three children (ages ranging from 8 to 15 years) suffering from idiopathic scoliosis were recruited for this study. Thoracic or thoracolumbar curves showed between 15° and 40° Cobb degrees. The evolutionary character of the curves had been confirmed. A study of different clinical and radiological parameters was carried out to compare the measurements before and after (3 months later) the application of a 5 HG daily exercises programme: A radiological study of the spine was carried out to compare the measurements of the vertebral rotation. A radiological study, a plumb line and a measuring tape were used to assess the vertebral tilt in this study. A Scoliometer was used to measure the deformation of the rib cage (gibbosity). The most significant results were: a trend to reach stabilisation in the vertebral tilt and rotation, and stabilisation of gibbosity, which probably might improve the respiratory function of these subjects. Finally, the performance of an ordinary HG exercise program shows a trend to control and stabilise dorsal idiopathic scoliosis progression.

LPF Low Pressure Fitness

Pelvic floor and abdominal muscle responses during hypopressive exercises in women with pelvic floor dysfunction

Beatriz Navarro Brazález, Beatriz Sánchez Sánchez, Virginia Prieto Gómez Pedro De La Villa Polo Linda McLean María Torres Lacomba dysfunction. Neurourology and Urodynamics. 2020, 3, 92, https://doi.org/10.1002/nau.24284

Aim: To measure the neuromuscular activation of the pelvic floor and abdominal muscles concurrently with vaginal closure forces induced during a hypopressive exercise (HE) and to identify the contribution of the HEs sequences (posture and maneuver) in the muscle's activation. ***Methods:*** A cross-sectional study design was employed. Sixty-six women who had participated in a physical therapy program focused on HEs were recruited. Pelvic floor muscle (PFM) activation was measured using surface electromyography (sEMG) in supine and in the orthostatic position, and vaginal closure force was measured through vaginal dynamometry in supine. Activation of the abdominal, gluteal, and hip adductor muscles was measured using sEMG. Maximum effort voluntary contractions (MVCs) of the PFMs and reference contractions of the abdominal and hip muscles wereacquired for normalization purposes. A HE was then performed in a supine position with one leg raised, then in an orthostatic position. ***Results:*** During the supine HE, the peak PFM sEMG amplitude was 74.4% to 86.5% (49.6%-109.6%) of MVC, the peak vaginal closure force was between 51.2% and 55.7% (95.5%-382.9%) of MVC, and the muscles of the lateral abdominal wall were activated between 25.4% and 35.3% of the reference contraction. During the orthostatic HE, PFM activation was 61.4% (40.1%-105.6%) of MVC, and the lateral abdominal wall muscles contracted at 22.8% of the reference activation level. ***Conclusions:*** The PFMs, abdominal, gluteal, and adductor muscles are activated during the performance of a HE. The activation level of the PFMs and abdominal muscles is likely insufficient to result in strength gains; however, they could have an endurance effect.

LPF Low Pressure Fitness

Feasibility and preliminary efficacy of a hypopressive exercise program on postmenopausal cancer survivors: a pilot study

Iván Chulvi-Medrano,Tamara Rial Rebullido,Cinta Gómez-Tomás,Avery D. Faigenbaum Journal of Bodywork and Movement Therapies, https://doi.org/10.1016/j.jbmt.2020.02.019

Background. Cancer-related fatigue (CRF) is a common symptom during and after cancer treatment that negatively affects the patient's quality of life. Exercise is one of the most effective non-pharmacological treatments for CRF. Multimodal exercise therapy programs that include hypopressive exercises, relaxation and myofascial release may be beneficial for CRF. The aim of this pilot study was to evaluate the feasibility and efficacy of a multimodal program on CRF and lower limb functional strength in postmenopausal women diagnosed with cancer. ***Methods.*** 7 postmenopausal women (age=55.28 years; BMI=26.05 kg/m2) who had a cancer diagnosis participated in a supervised and progressive 55-min class once per week for 12-weeks. CRF was measured using the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-Cancer Related Fatigue 12 and lower limb strength was assessed with the sit and stand test. ***Results.*** No adverse events were reported during the training period and all participants completed the exercise protocol. There was a significant increase (p=0.01) in lower limb functional stregth (pre: 19.60 (SD=2.19) vs post: 24.60 (SD=2.19)) with an effect size of d=2.28 and a decrease in CRF (p = 0.245) (pre: 29.36 ± 24.42; post: 17.85 ± 14.23) with a trivial effect size (d<0.5). ***Conclusions.*** These preliminary findings indicate that a supervised once per week multimodal program that includes hypopressive exercises for postmenopausal cancer survivors increased lower limb functional strength without exacerbating their CRF. These findings support further randomized trials of hypopressive training programs on patients with cancer.

LPF Low Pressure Fitness

Pfilates and Hypopressives for the Treatment of Urinary Incontinence After Radical Prostatectomy: Results of a Feasibility Randomized Controlled Trial

Au, D., Matthew, A. G., Alibhai, S., Jones, J. M., Fleshner, N. E., Finelli, A., Elterman, D., Singal, R. K., Jamnicky, L., Faghani, N., Hilton, W. J., Auger, L. E., Ritvo, P., Trachtenberg, J., & Santa Mina, D. PM & R : the journal of injury, function, and rehabilitation, 12(1), 55–63. 2020, https://doi.org/10.1002/pmrj.12157

Background: Urinary incontinence (UI) is an important side effect of radical prostatectomy (RP). Coactivation of surrounding muscles via novel techniques for pelvic floor rehabilitation known as Pfilates and Hypopressives has not been compared to pelvic floor muscle exercises (PFMXs) for UI. ***Objective:*** To assess the feasibility and efficacy of isolated PFMXs with and without the addition of Pfilates and Hypopressives on UI recovery following RP. ***Design:*** Randomized controlled trial. ***Setting:*** Participants were recruited from a community and tertiary cancer center in Toronto, Canada. ***Participants:*** A total of 226 patients undergoing RP were assessed for eligibility. One hundred twenty-two patients were eligible and 50 consented to participate; 37 participants completed the trial. ***Methods:*** Participants were randomized to either isolated PFMX (control) or PFMX plus Pfilates and Hypopressives (advanced pelvic floor exercises; APFX) groups. PFMX participants (n = 25) received instructions for isolated pelvic floor contractions starting with h 30 contractions per day during weeks 1 to 2 up to 180 per day for weeks 7 to 26. The APFX group (n = 25) received a comparable volume of exercises. ***Main outcome measurements:*** Feasibility was assessed by rates of recruitment, adverse events, and study-arm compliance. Information about UI and quality of life was collected 1 week before surgery and at 2, 6, 12, and 26 weeks after surgery. ***Results:*** The recruitment rate was 41%, adherence to the PFMXs and APFXs was >70%, and there were no reported adverse events. Between-group differences were observed in the frequency of self-reported 24-hour urinary leakage (rate ratio 0.45, 95% confidence interval [CI] 0.2-0.98) and during waking hours (rate ratio 0.43, 95% CI 0.20-0.91) at 26 weeks after surgery favoring APFX. ***Conclusions:*** Pfilates and Hypopressives are feasible in men undergoing RP, and preliminary data suggest a potential benefit in aiding recovery of urinary control. Larger studies with longer follow-up are warranted. ***Level of evidence:*** II.

Effects of an Exercise Program on Diastasis Recti in Women

Cañamero-de Leon S, Da Cuña-Carrera I, de la Hoz Gonzalez CA, Soto-González M. International Journal of Health Sciences and Research, 9(10), 90-99, 2019,
https://www.ijhsr.org/IJHSR_Vol.9_Issue.10_Oct2019/IJHSR_Abstract.014.html

Introduction: The programs aimed at reducing diastasis recti reported in the scientific literature, are scarce. However, the diastasis recti is maintained in many women after their postpartum period. The objective of this work is to know the impact of an exercise program on reducing Diastasis Recti. ***Materials and Methods:*** A quasi-experimental analytical study was carried out. The research study included all women who participated in the exercise program (9 weeks) between 2014 and 2016, that is, a total of 100 women. They were assessed in the beginning, at 3, 6 and 9 weeks after starting the program. The program consists of hypopressive abdominal exercises, transverse muscle activation exercises, and exercises of oblique and rectus abdominis activation. ***Results:*** There was a reduction of the upper, medial and lower diastasis and in the abdominal circumference. The difference between the initial measurement and the measurement after 3 weeks is statistically significant; the same applies to the measurements of weeks 3 and 6 and the trend is maintained, finding statistically significant differences between the measurements of weeks 6 and 9. ***Conclusions:*** The exercise program leads to a reduction in the diastasis recti. The results were obtained starting from the third week, and they gradually improved until the ninth week.

LPF Low Pressure Fitness

Hypopressive exercise in normotensive young women: A case series.

de Lucena EGP, Teixeira LFM, Mendes CL, Castaño LAA, Rebullido TR, Uchida MC. J Bodyw Mov Ther. 2021;25:94-99, https://doi.org/10.1016/j.jbmt.2020.11.004

Hypopressive exercise (HE) has been contraindicated for people with cardiovascular disease because it involves isometric postures performed with low-pulmonary volume breath-holds, which are thought to increase blood pressure. The objective of this study was to analyze the hemodynamic responses to HE performed in the seated posture on systolic blood pressure (SBP), diastolic blood pressure (DBP), mean arterial pressure (MAP) and heart rate (HR) in normotensive females. Ten women (age = 31.2 ± 6.3 years) with previous experience in HE participated. Three sets of eight breathing cycles of HE breathing were completed. The HE breathing protocol consisted of three complete breathing cycles of controlled latero-costal inhalations and slow deep exhalations followed by a breath-hold and rib-cage expansion after every third exhalation. Measurements of SBP, DBP, MAP and HR were assessed at baseline, at the end of each set and at the end of minute 5, 10, 15 and 20 during the recovery period. The measurement of hemodynamic variables used a digital photoplethysmography device. Significant differences for SBP (baseline compared to SET2, p = 0.0182) and MAP (baseline compared to SET1, p = 0.0433; and SET2, p = 0.0072) were found. No significant differences were found in the recovery periods compared with baseline. Medium effect size for HR during REC5 (ES = 0.50) and REC10 (ES = 0.56) was observed. These findings indicate that HE in the seated posture performed by normotensive females leads to significant increases in SBP and MAP with no significant increase of HR and no hypotensive effect during recovery period. Our preliminary results should be supported by future randomized controlled trials.

The Abdominal Vacuum Technique for Bodybuilding.

Rebullido, Tamara Rial ; Chulvi-Medrano, Iván. Strength and Conditioning Journal, 2020, https://doi.org/10.1519/SSC.0000000000000586

The abdominal vacuum technique is a breath-holding maneuver used in body building to contrast a noticeable reduction of the waistline to an increase in thoracic circumference. This article provides a description of the abdominal vacuum exercise as well as a technique-driven progression and teaching cues for performing this maneuver.

The Effects of abdominal hypopressive gymnastics in women with constipation.

Fernandez F, Machado, P, Vaucher, D. Cinergis, 2014, https://doi.org/10.17058/cinergis.v15i3.5069

Intestinal constipation affects 15% to 30% of the world population; in Brazil about 35 million individuals have these symptoms and the incidence is higher in females. Objective: The aim of the present study was to analyze the effects of Hypopressive Abdominal Gymnastics (GAH) on constipation in women. Method: to assess constipation, the ROME III questionnaire was used, before and after the exercise protocol. Results: after five weeks of GAH, the pain and abdominal discomfort decreased, the participants had no more difficulty in relaxing the muscles and the frequency of bowel movements became daily. Final considerations: the drop in abdominal pressure and the mobilization of the viscera, through the hypopressive approach, may have been the reason why the frequency of bowel movements increased and the abdominal pain and discomfort decreased.

Yogic agnisara increases blood flow in the superior mesenteric artery.

Minvaleev RS, Bogdanov RR, Kuznetsov AA, Bahner DP, Levitov AB. J Bodyw Mov Ther. 2022;31:97-101, https://doi.org/10.1016/j.jbmt.2022.04.004

Objectives: Medieval yoga texts claim that a special exercise of the muscles of the anterior abdominal wall, called agnisara, improves digestive function. Main objective of the study was to demonstrate change in the blood flow through superior mesenteric artery (if any) after performance of agnisara. ***Methods:*** Ultrasound examination of the linear and volumetric indicators of blood flow in the superior mesenteric artery (SMA) before and after performing the agnisara yoga exercise 100 times was carried out in 12 healthy volunteers of both sexes (8 of them women). ***Results:*** A significant increase in the diameter of the SMA, peak systolic and diastolic velocities, and blood flow in the superior mesenteric artery after performing the agnisara exercise 100 times was found, which contrasts with the established data on a decrease in splanchnic blood flow in humans in response to normal physical activity. ***Conclusion:*** Properly performed agnisara increases blood flow to the splanchnic region, registered by the SMA, which should contribute to adequate blood supply to the gastrointestinal tract for successful performance of digestive function.

LPF Low Pressure Fitness

The Effects of Abdominal Hypopressive Training on Postural Control and Deep Trunk Muscle Activation: A Randomized Controlled Trial.

Moreno-Muñoz MDM, Hita-Contreras F, Estudillo-Martínez MD, et al. Int J Environ Res Public Health, https://www.mdpi.com/1660-4601/18/5/2741

Background: Abdominal Hypopressive Training (AHT) provides postural impro vement and enhances deep trunk muscle activation. However, until recently, there was a lack of scientific literature supporting these statements. The major purpose of this study was to investigate the effect of AHT on posture control and deep trunk muscle function. ***Methods:*** 125 female participants aged 18-60 were randomly allocated to the Experimental Group (EG), consisting of two sessions of 30 min per week for 8 weeks of AHT, or the Control Group (CG), who did not receive any treatment. Postural control was measured with a stabilometric platform to assess the static balance and the activation of deep trunk muscles (specifically the Transverse Abdominal muscle (TrA)), which was measured by real-time ultrasound imaging. ***Results:*** The groups were homogeneous at baseline. Statistical differences were identified between both groups after intervention in the Surface of the Center of Pressure (CoP) Open-Eyes (S-OE) ($p = 0.001$, Cohen's $d = 0.60$) and the Velocity of CoP under both conditions; Open-Eyes (V-OE) ($p = 0.001$, Cohen´s $d = 0.63$) and Close-Eyes (V-CE) ($p = 0.016$, Cohen´s $d = 0.016$), with the EG achieving substantial improvements. Likewise, there were statistically significant differences between measurements over time for the EG on S-OE ($p < 0.001$, Cohen´s $d = 0.99$); V-OE ($p = 0.038$, Cohen´s $d = 0.27$); V-CE ($p = 0.006$, Cohen´s $d = 0.39$), anteroposterior movements of CoP with Open-Eyes (RMSY-OE) ($p = 0.038$, Cohen´s $d = 0.60$) and activity of TrA under contraction conditions ($p < 0.001$, Cohen´s $d = 0.53$). ***Conclusions:*** The application of eight weeks of AHT leads to positive outcomes in posture control, as well as an improvement in the deep trunk muscle contraction in the female population.

Effectiveness of Hypopressive Exercises in Women with Pelvic Floor Dysfunction: A Randomised Controlled Trial.

Navarro-Brazález B, Prieto-Gómez V, Prieto-Merino D, Sánchez-Sánchez B, McLean L, Torres-Lacomba M. J Clin Med. 2020;9(4):1149,
https://www.mdpi.com/2077-0383/9/4/1149

Hypopressive exercises have emerged as a conservative treatment option for pelvic floor dysfunction (PFD). The aim of this study was to compare the effects of an eight-week hypopressive exercise program to those of an individualized pelvic floor muscle (PFM) training (PFMT) program, and to a combination of both immediately after treatment and at follow-up assessments at 3, 6 and 12 months later. The study was a prospective, single-centre, assessor-blinded, randomised controlled trial. Ninety-four women with PFD were assigned to PFMT (n = 32), hypopressive exercises (n = 31) or both (n = 31). All programs included the same educational component, and instruction about lifestyle interventions and the knack manoeuvre. Primary outcomes were the Pelvic Floor Distress Inventory Short Form (PFDI-20); the Pelvic Floor Impact Questionnaire Short Form (PFIQ-7); PFM strength (manometry and dynamometry) and pelvic floor basal tone (dynamometry). There were no statistically significant differences between groups at baseline, nor after the intervention. Overall, women reduced their symptoms (24.41-30.5 on the PFDI-20); improved their quality of life (14.78-21.49 on the PFIQ-7), improved their PFM strength (8.61-9.32 cmH2O on manometry; 106.2-247.7 g on dynamometry), and increased their pelvic floor basal tone (1.8-22.9 g on dynamometry). These data suggest that individual PFMT, hypopressive exercises and a combination of both interventions significantly reduce PFD symptoms, enhance quality of life, and improve PFM strength and basal tone in women with PFD, both in the short and longer term.

LPF Low Pressure Fitness

The Main Role of Diaphragm Muscle as a Mechanism of Hypopressive Abdominal Gymnastics to Improve Non-Specific Chronic Low Back Pain: A Randomized Controlled Trial.

Vicente-Campos D, Sanchez-Jorge S, Terrón-Manrique P, et al. J Clin Med. 2021;10(21):4983, https://www.mdpi.com/2077-0383/10/21/4983

Background: Chronic low back pain (LBP) has been stated as one of the main health concerns in the XXI century due to its high incidence. Objective: The objective of this study was to determine the effects of an 8-week program of hypopressive abdominal gymnastics (HAG) on inspiratory muscle strength, diaphragm thickness, disability and pain in patients suffering from non-specific chronic LBP. ***Methods:*** A total of 40 patients with chronic LBP were randomly divided into two groups. The experimental group carried out an 8-week supervised program of HAG (two sessions/week), whereas the control group did not receive any treatment. Outcomes were measured before and after the intervention, comprising diaphragm thickness during relaxed respiratory activity, maximal inspiratory pressure (PImax), pain intensity (NRS), pressure pain threshold and responses to four questionnaires: Physical Activity Questionnaire (PAQ), Roland-Morris Disability Questionnaire (RMQ), Central Sensitization Inventory (CSI) and Tampa Scale of Kinesiophobia-11 Items (TSK-11). contractions per day during weeks 1 to 2 up to 180 per day for weeks 7 to 26. The APFX group (n = 25) received a comparable volume of exercises. ***Main outcome measurements:*** Feasibility was assessed by rates of recruitment, adverse events, and study-arm compliance. Information about UI and quality of life was collected 1 week before surgery and at 2, 6, 12, and 26 weeks after surgery. ***Results:*** The recruitment rate was 41%, adherence to the PFMXs and APFXs was >70%, and there were no reported adverse events. Between-group differences were observed in the frequency of self-reported 24-hour urinary leakage (rate ratio 0.45, 95% confidence interval [CI] 0.2-0.98) and during waking hours (rate ratio 0.43, 95% CI 0.20-0.91) at 26 weeks after surgery favoring APFX. ***Conclusions:*** Pfilates and Hypopressives are feasible in men undergoing RP, and preliminary data suggest a potential benefit in aiding recovery of urinary control. Larger studies with longer follow-up are warranted. ***Level of evidence:*** II.

LPF Low Pressure Fitness

Effects of Hypopressive Exercise on Posterior Back Chain Kinematics and Pulmonary Function in Professional Female Basketball Players.

Teijido SL, Rial Rebullido T, Gómez-Tomás C, Alonso-Aubin DA, Chulvi-Medrano I.. J Sport Rehabil. 2022;31(3):305312,
https://journals.humankinetics.com/view/journals/jsr/31/3/article-p305.xml

Context: Hypopressive exercise (HE) has been used as an alternative lumbo-pelvic injury prevention program and claimed to be a means of respiratory and flexibility improvement. However, the possible effects of HE on athletic populations and physical performance remain unclear. ***Objective:*** Examine the effects of a HE program on posterior back chain kinematics, thoracic mobility, pulmonary function, and lower lumbar pain in female basketball players over an 8-week training period. Design: Prospective (1) baseline, (2) midpoint (4 wk), and (3) after 8 weeks. ***Setting:*** Sports field. ***Participants:*** A total of 17 professional female basketball players (mean age 20.7 y, SD: 3.50; body mass index, 21.71, SD: 1.69). ***Intervention:*** Participants performed 8 HE weekly sessions of 30 minutes. ***Main outcome measures:*** Back chain kinematics was assessed with the sit and reach and finger to floor test, and back pain was assessed through numerical rating scale. Respiratory parameters were assessed by spirometry and through thoracic mobility. ***Results:*** The analysis of variance revealed significant differences between the 3 measurement periods for thoracic mobility ($P > .01$); forced expiratory volume in the first second ($P < .05$) while no statistical differences were found for the rest of spirometry outcomes. Significant differences were also revealed between baseline and after the intervention for the sit and reach test ($P > .01$), peak expiratory flow ($P = .01$), and forced expiratory volume in the first 25 seconds ($P = .04$). Also, significant differences between weeks were found in levels of lumbar pain ($P = .003$) and the finger to floor test ($P = .002$). ***Conclusions:*** These preliminary findings suggest that a HE program can improve posterior back chain and chest wall kinematics as well as lower lumbar pain levels. However, no gains seem to be observed for the majority of pulmonary variables except for peak expiratory flow and forced expiratory volume in the first seconds.

Hypopressive gymnastics: evidences for an alternative training for women with local proprioceptive deficit of the pelvic floor muscles.

Latorre, G., Seleme, M., Resende, A.P., Stüpp, L. y Berghmans, B Physiotherapy Brasil 2011, https://perineo.net/pub/latorre2011.pdf

Although pelvic floor kinesiotherapy is, today, part of the gold standard for the treatment of pelvic floor dysfunction, one-third of women have local proprioceptive difficulty, what hinders the initiation of treatment. The hypopressive gymnastic is a new technique that promises reflex contraction of the pelvic floor muscles, but the evidence is sparse. ***Methods:*** Organizing the evidence, especially for imaging and electromyography, published so far. ***Results:*** Hypopressive gymnastics causes cranial momentum of the pelvic organs, which can be seen by ultrasound, magnetic resonance and direct observation by speculum. Electromyography suggests reflex activation of the pelvic floor muscles. ***Conclusion:*** Hypopressive gymnastics acts on the pelvic floor, and can be used as an adjuvant technique for the proprioceptive awakening of pelvic floor muscle.

Liberação miofascial, manobra do ligamento largo associada ou não ao LPF.

Latorre GFS, Gil NA, Echevarria VR, Ayala, A. Rev Bras Fisiot Pélvica 2022 2(1)4-15, https://perineo.net/rbfp/2(1)/2(1)4-15.pdf

Background: Among genitopelvic pain is the pain deep into the vagina and deeper than the uterine cervix, different from pain related to penetration or superficial connective pain. ***Aims:*** To test the view of abdominal and pelvic fascia, muscles and viscera by ultrasound (USG), as well as the view of two myofascial techniques, one intravaginal and the other external, and diaphragmatic aspiration of LPF, comparing the effectiveness of each technique alone or in combination, regarding the mobilization of visceral and parietal fasciae. ***Method:*** Exploratory experimental study guided by USG. ***Results:*** Muscles, fasciae and organs were well seeing by USG, as well as the fascial movements caused by each technique. LPF mobilized visceral fascia better, but manual techniques mobilized parietal fascia better. The Broad Ligament Maneuver mobilized both fasciae. The combination of manual techniques with LPF was superior in releasing parietal and visceral fasciae. ***Conclusion:*** Fascial mobilization can be effectively visualized by USG. The combination of manual myofascial release techniques with LPF is more effective in mobilizing all fasciae and should be the first choice.

LPF Low Pressure Fitness

Effects of hypopressive exercises on post-partum abdominal diastasis, trunk circumference, and mechanical properties of abdominopelvic tissues: a case series.

Ramírez-Jiménez M, Alburquerque-Sendín F, Garrido-Castro JL, Rodrigues-de-Souza D. Physiother Theory Pract. 2021;1-12. https://doi.org/10.1080/09593985.2021.2004630

Background: Abdominal diastasis (AD) is highly prevalent at post-partum. Although several conservative approches have been proposed, an effective and protocolized treatment is lacking for this codition. ***Objective:*** To identify modifications of inter-rectus abdominis distance (IRAD), trunk circumferences and mechanical properties of the AD, transversus abdominis and the pelvic floor (PF) muscles, after the application of hypopressive exercises (HE) and at a two-month follow-up in postpartum AD. ***Methods:*** Twelve volunteers with post-partum AD followed a four-week (three times a week) tailored program of HE. The main outcome was the IRAD, assessed at four specific supraumbilical points (3, 6, 9, and 12 cm). Abdominal circumference and respiratory expansion were measured at three different locations (axillar, xiphoid, and umbilical), and the mechanical properties of abdomino-pelvic tissues were also assessed using tonometry (MyotonPRO). Four evaluations were performed for all outcomes: at baseline, post-intervention, at a 1-month follow-up, and at a 2-month follow-up. ***Results:*** The IRAD of participants was reduced ($p < .05$), furthermore, some participants displayed no AD after the intervention period. In addition, the abdominal circumference increased, mainly at follow-up, whereas the thoracic respiratory expansion decreased a median of 2 cm. The tension and stiffness of the LA decreased, when assessed at 3 and 6 cm supraumbilical. Finally, the tension and elasticity of TA/IO and of the PF, and also the elasticity of the PF decreased after the intervention period. No complaints were identified in relation to the HE program or assessments. ***Conclusion:*** A program of HE showed positive results for the reduction of post-partum AD. Different study designs should be performed to better explain the effects of HE for AD.

How Do the Abdominal Muscles Change during Hypopressive Exercise?

Da Cuña-Carrera I, Alonso-Calvete A, Soto-González M, Lantarón-Caeiro EM. Medicina (Kaunas). 2021;57(7):702. https://www.mdpi.com/1648-9144/57/7/702

Background and objective: Prior studies have reported an activation of abdominal muscles during hypopressive exercises in women with pelvic floor disfunction. However, no previous research analyzed the effects of hypopressive exercise on abdominal muscles in healthy populations to understand the normal biomechanics of this area. The aim of this study was to examine the thickness of abdominal muscles at rest and during hypopressive exercise in supine and standing positions with ultrasound imaging in healthy adults. ***Methods:*** A cross-sectional study was carried out in 99 healthy university students. The thickness of the abdominal muscles at rest and during hypopressive exercise was assessed with ultrasound imaging in supine and standing positions. ***Results:*** During hypopressive exercise, there was a significant increase in the muscle thickness of transversus abdominis ($p < 0.001$) and internal oblique ($p < 0.001$) in supine and standing positions. External oblique only increased its thickness significantly in the standing position ($p < 0.001$) and rectus abdominis did not change during the hypopressive exercise in any position ($p > 0.05$). In conclusion, hypopressive exercises seem to increase the thickness of the deepest and most stabilized muscles such as transversus abdominis and internal oblique. ***Conclusions:*** These findings should be considered for future interventions with hypopressive exercises in healthy subjects.

Are There Any Differences in Abdominal Activation between Women and Men during Hypopressive Exercises?

Da Cuña-Carrera I, Alonso-Calvete A, Lantarón-Caeiro EM, Soto-González M. Int J Environ Res Public Health. 2021;18(13):6984. https://www.mdpi.com/1660-4601/18/13/6984

This study analyzes the effects of hypopressive exercises on the abdominal thickness of healthy subjects and compares the performance between women and men. We conducted a transversal observational study in 98 subjects (63% women). The muscle thickness is analyzed in transversus abdominis, internal oblique, external oblique, and rectus abdominis with ultrasound imaging at rest and during the hypopressive exercise (HE) in supine and standing position. Comparisons between rest and hypopressive exercise are carried out in the two different positions and between women and men. In the supine position, there is a significant activation of the transversus abdominis and internal oblique during hypopressive exercise ($p < 0.001$), and it is similar in both sexes, the external oblique is only activated significantly by men ($p < 0.001$) and rectus abdominis had no significant activation ($p > 0.05$). Our results show that standing transversus abdominis and external oblique significantly increased their thickness during HE with higher effects in men. Internal oblique also increased significantly, but with higher effects in women, and rectus abdominis had no significant increase. Men had similar effects to women during HE, with an activation of the deepest abdominal muscles. The unequal anatomy and the position could explain the different results obtained between the sexes.

LPF Low Pressure Fitness

Clinical relevance of massage therapy and abdominal hypopressive gymnastics on chronic nonspecific low back pain: a randomized controlled trial.

Bellido-Fernández L, Jiménez-Rejano JJ, Chillón-Martínez R, Lorenzo-Muñoz A, Pinero-Pinto E, Rebollo-Salas M. Disabil Rehabil. 2022;44(16):4233-4240.
https://doi.org/10.1080/09638288.2021.1884903

Purpose: To determine the clinical relevance of the effects that Massage-Therapy (MT) and Abdominal-Hypopressive-Gymnastics (AHG) and the combination of both procedures have on the disability, pain intensity, quality of life, and lumbar mobility of patients with chronic nonspecific low back pain (CNSLBP). ***Methods:*** A randomized controlled-trial with parallel-groups, concealed allocation, assessor blinding, and intention-to-treat analysis was carried out. The sample included 60 adults with CNSLBP. The participants received MT (n = 20), AHG (n = 20), or MT + AHG (n = 20). Each group received 8 interventions. ***Results:*** The ODI change scores were significantly higher ($p < 0.05$) in the MT + AHG group than in the other two groups. Significant differences were found in the results of NRS, Schober's test, and SF-12 PCS ($p < 0.05$) in each group. There were significant differences ($p < 0.05$) between the values of SF-12 MCS in AHG and MT + AHG groups. ***Conclusions:*** Massage Therapy and Abdominal Hypopressive Gymnastics reduce pain levels, increase the mobility of the lumbar spine, and improve disability and quality of life (PCS) in patients with CNSLBP in the short term. Likewise, AHG and MT + AHG improve quality of life (MCS). The combination of both therapies provides more benefits in terms of lumbar disability in patients with CNSLBP in the short term. This improvement is clinically relevant. Trial registration: ClinicalTrials.gov (NCT02721914). IMPLICATIONS FOR REHABILITATION: Massage Therapy (MT) and Abdominal Hypopressive Gymnastics (AHG), reduce pain, improve mobility and quality of life, and reduce disability in the short term. These results are clinically relevant. The combination of manual and active therapy (MT + AHG) seems to be more effective and produces clinically relevant changes.

LPF Low Pressure Fitness

Hypopressive Abdominal Gymnastics and the management of post-partum low back pain: case of 64 primipares under 20 years of porto-novo.

Dossou et al. (2020). International Journal of Science Academic Research, 1(4), 154-160.

One of the consequences of pregnancy and childbirth is postpartum low back pain. Its prevalence remains very high both in postpartum women (2/3) and in the general population. This musculoskeletal pain can persist for up to three (3) years, that is, until the arrival of a new pregnancy. It is therefore necessary to manage this pain. All the works in the literature are unanimous on the fact that there can be no treatment for low back pain without strengthening the abdominal and spinal muscles. However, because of the co-contraction of the abdominal and pelvic muscles, the abdominal muscles can only be strengthened by hypopressive techniques on the perineum. This experimental comparative study brought together 64 continuous primary low back pain women who gave birth by the vaginal route. Our objective is to assess the effectiveness of hypopressive abdominal gymnastics in the management of postpartum lumbar pain in women under the age of twenty from the city of Porto-Novo. The results showed that hypopressive abdominal gymnastics promotes the toning of the abdominal strap and the significant reduction in pain and functional disability linked to low back pain. There is no doubt that hypopressive gymnastics is a very effective method of managing low back pain in the postpartum period contractions per day during weeks 1 to 2 up to 180 per day for weeks 7 to 26. The APFX group (n = 25) received a comparable volume of exercises. ***Main outcome measurements:*** Feasibility was assessed by rates of recruitment, adverse events, and study-arm compliance. Information about UI and quality of life was collected 1 week before surgery and at 2, 6, 12, and 26 weeks after surgery. ***Results:*** The recruitment rate was 41%, adherence to the PFMXs and APFXs was >70%, and there were no reported adverse events. Between-group differences were observed in the frequency of self-reported 24-hour urinary leakage (rate ratio 0.45, 95% confidence interval [CI] 0.2-0.98) and during waking hours (rate ratio 0.43, 95% CI 0.20-0.91) at 26 weeks after surgery favoring APFX. ***Conclusions:*** Pfilates and Hypopressives are feasible in men undergoing RP, and preliminary data suggest a potential benefit in aiding recovery of urinary control. Larger studies with longer follow-up are warranted. ***Level of evidence:*** II.

LPF Low Pressure Fitness

Efeitos da Ginástica Abdominal Hipopressiva no Puerpério Imediato e tardío.

De Almeida, K. et al. (2019). https://www.atenaeditora.com.br/catalogo/post/efeitos-da-ginastica-abdominal-hipopressiva-no-puerperio-imediato-e-tardio

Puerperium is the period after childbirth during which the mother's systems return to their original non-pregnant. In this phase, changes in the musculoskeletal system derived from gestation, may favor decrease of muscles tone and cause diastasis recti (DR) associated with pain. The aim of this study was to evaluate the effects of Hypopressive Abdominal Gymnastics (HAG) (in the immediate puerperium) on pain intensity and on DR. Ten primiparous postpartum women were divided into Control Group – CG (n = 5, 20.6 ± 1.89 years) and Treated Group – TG (n = 5,21.8 ± 2.77 years). They were evaluated in three moments: Post6 (6 days postpartum), Post10 (10 days postpartum) and Post42 (42 days postpartum). DR was evaluated with a digital caliper and the general pain intensity, with Visual Analogue Scale (VAS). DR was measured on three levels (supra umbilical, umblical and infra umbilical). The TG received intervention for five consecutive days with HAG (Post6 to Post10). Our results demonstrated that there was a reduction of DR in both TG and GC, however, a significant reduction ($p < 0.05$) was observed in the TG in all evaluated levels and only in one in the CG. Both groups had a decrease in pain intensity, but only in TG this reduction was significant ($p < 0.05$) in all comparisons. We concluded that DR regressed spontaneously and progressively in the immediate puerperium and HAG accelerated this decrease at all levels evaluated. GAH also favored reduction of pain intensity.

LPF Low Pressure Fitness

The Impact of Hypopressive Abdominal Exercise on Linea Alba Morphology in Women Who Are Postpartum: A Short-Term Cross-Sectional Study.

Arranz-Martín B, Navarro-Brazález B, Sánchez-Sánchez B, McLean L, Carazo-Díaz C, Torres-Lacomba M. Phys Ther. 2022;102(8):pzac086. https://doi.org/10.1093/ptj/pzac086

Objective: The purpose of this study was to determine the acute effect of an abdominal hypopressive exercise (AHE) on linea alba morphology among women who are primiparous and to compare this effect with that of other common abdominal exercise modalities. ***Methods:*** A cross-sectional study of 46 women 3 months after first delivery was conducted. B-mode ultrasound imaging of the interrectus distance (IRD) and linea alba distortion was performed 2 cm below (I-point) and above (S-point) the umbilicus and at the mid-point between the umbilicus and xiphoid process (X-point). Images were recorded at rest and during an AHE performed in a supine position, a semi curl-up (SCU), an abdominal drawing-in maneuver (ADIM), and a SCU performed after an initial ADIM (ADIM+SCU). ***Results:*** The SCU exercise narrowed the IRD at the X- and S-points. Compared with SCU, AHE and ADIM widened the IRD at the S- and X-points. No significant differences were found when comparing the IRD at rest, during AHE and during ADIM, but AHE tended to narrow I-point IRD more than ADIM but to widen S-point IRD more than ADIM+SCU. No participant showed linea alba distortion during the AHE or ADIM. When compared, SCU increased the occurrence of distortion with respect to AHE and ADIM. The isolated hypopressive posture did not change the IRD or linea alba distortion. ***Conclusion:*** Among women who were postpartum, AHE seemed to narrow IRD below the umbilicus compared with ADIM without either of these 2 modalities generating linea alba distortion, as SCU or ADIM+SCU does. Thus, although no significant differences were found when comparing the IRD at rest and during AHE, the AHE could improve the tensile response of the linea alba without increasing the IRD. Impact: This is believed to be the first study to describe linea alba changes during AHE in women who are postpartum. AHE and ADIM seem to show different effects on infraumbilical IRD. The lack of distortion suggests that linea alba may undergo tensile loading at all levels.

What Influences Women to Adhere to Pelvic Floor Exercises after Physiotherapy Treatment? A Qualitative Study for Individualized Pelvic Health Care.

Navarro-Brazález B, Vergara-Pérez F, Prieto-Gómez V, Sánchez-Sánchez B, Yuste-Sánchez MJ, Torres-Lacomba M. J Pers Med. 2021;11(12):1368. https://doi.org/10.3390/jpm11121368

Conservative treatment of pelvic floor dysfunction (PFD) includes therapeutic exercise for pelvic floor muscle (PFM) training or other complementary exercise modalities, such as hypopressive exercises. However, the long-term effectiveness of the conservative treatment depends on a patient's adherence to the exercises and the integration of professional health advice into their daily life. The objective of this study was to establish the adherence experience of women with diagnosed PFD in home-based exercises after an intensive face-to-face physiotherapy treatment. A qualitative study from an interpretive paradigm was developed. Semi-structured individual and group interviews were performed 6 months after finishing individual physiotherapy treatment. The interviews were recorded, fully transcribed and analyzed thematically by creating categories. Thirty-one women were interviewed. The women reported that their adherence to home PFM exercises depended on the exercise program itself, its efficacy, their personal experiences with the exercises, intrinsic factors such as self-awareness or beliefs, and extrinsic factors, such as professional or instrumental feedback. Thus, therapeutic adherence could be more likely with effective physiotherapy programs that include mutually agreed home exercises and simple movements women can build into their daily lives. Improving awareness and knowledge of the pelvic region and the importance of PFM treatment as well as consideration for potential worsening of PFD will also encourage women to adhere to the exercises

LPF Low Pressure Fitness

Clinical and MRI changes of puborectalis and iliococcygeus after a short period of intensive pelvic floor muscles training with or without instrumentation : A prospective randomized controlled trial.

Dierick F, Galtsova E, Lauer C, Buisseret F, Bouché AF, Martin L. Eur J Appl Physiol. 2018;118(8):1661-1671. https://link.springer.com/article/10.1007/s00421-018-3899-7

Purpose: This study evaluates the impact of a 3-week period of intensive pelvic floor muscles training (PFMT), with or without instrumentation, on clinical and static magnetic resonance imaging (MRI) changes of puborectalis (PR) and iliococcygeus (IL) muscles. ***Methods:*** 24 healthy young women were enrolled in the study and 17 achieved the 9 sessions of 30 min training exercises and conducted all assessments. Participants were randomly assigned in two training groups: voluntary contractions combined with hypopressive exercises (HYPO) or biofeedback exercises combined with transvaginal electrical stimulations (ELEC). Clinical and T2-weighted MRI assessments were realized before and after training. ***Results:*** Modified Oxford Grading System (MOGS) scores for left PR and perineal body significantly increased in the two groups ($p = 0.039$, $p = 0.008$), but MOGS score for right PR significantly increased only in HYPO ($p = 0.020$). Muscle volumes of right and left IL significantly decreased ($p = 0.040$, $p = 0.045$) after training as well as signal intensities of right and left PR ($p = 0.040$, $p = 0.021$) and thickness of right and left IL at mid-vagina location ($p = 0.012$, $p = 0.011$). ***Conclusions:*** A short period of intensive PFMT induces clinical and morphological changes in PFMs at rest suggesting a decrease in IL volume and adipose content of PR. Although the results suggested that an intensive non-instrumented PFMT is as effective as an instrumented training, future controlled studies with greater sample sizes are needed to establish the relative and absolute effectiveness of each of the two interventions.

LPF Low Pressure Fitness

Quality of Life in the Postpartum Recovery of Women Who Practice Hypopressive Exercise: Randomized Clinical Trial.

Sanchez-Garcia JC, Aguilar-Cordero MJ, Montiel-Troya M, Marín-Jiménez AE, Cortes-Martin J, Rodriguez-Blanque R. Journal of Clinical Medicine. 2022; 11(19):5592. https://doi.org/10.3390/jcm11195592

Background: Practicing physical exercise is a way of maintaining a healthy lifestyle and it has been demonstrated to provide benefits and improve quality of life after labour. ***Aim:*** The objective of this study is to determine if performing a moderate hypopressive exercise program after childbirth improves the HRQoL of women. ***Materials and Methods:*** A 12-week randomized clinical trial was carried out. The women in the exercise group followed a training program based on the hypopressive method, which comprises postural and respiratory exercises of moderate intensity. We used the SF-36v2 questionnaire to assess the Health-Related Quality of Life in women. ***Results:*** We found statistically significant differences ($p < 0.05$) in general health components, vitality, emotional role, and mental health in the sample group of exercise group of women, who obtained a higher score. We found statistically significant differences in all aspects between the groups. The interaction between time and group affect in general health components, vitality, emotional role and the score of mental components. In all of them, the score was higher at the end of the programme and in the exercise group. ***Conclusions:*** The training program with hypopressive physical exercise improves the quality of life after childbirth. According to the guide lines recommended by the ACOG, the hypopressive method is valid for the improvement of HRQoL in women who perform this method at 16 weeks of delivery. Further studies are recommended to start such exercises one week after delivery in postpartum women.

LPF official website

lowpressurefitness.com

LPF journal (articles and testimonials)

lowpressurefitness.com/en/lpf-journal/

Directory of LPF Certified Trainers

lowpressurefitness.com/es/trainers/

Find a Pelvic Health Professional

pelvicguru.com/directory/

Youtube channels:

Low Pressure Fitness

Tamara Rial Exercise & Women's Health

Instagram:

@lowpressurefitness

@lpf_usa

@hypopressiveguru

Facebook groups:

Low Pressure Fitness

Private group for all LPF Students from level 1 to certified. Request access here:

facebook.com/groups/265259608058

Certified Low Pressure Fitness

Private group for all the certified LPF Trainers from over the world. To be part of the group you must have passed the certification exam. Request access here:

facebook.com/groups/StudentsLPF

Low Pressure Fitness

INTERNATIONAL HYPOPRESSIVE & PHYSICAL THERAPY INSTITUTE