
**Introduction:** Stress UI in the most prevalent type of UI varying from prevalence in the population from 10-39% in most studies. Pelvic floor muscle training is the first line treatment for SUI with level A evidence, as the muscles can provide stiffness and prevent bladder neck decent during increases in intra-abdominal pressure.

**Background:** Some studies have indicated that Abdominal Hypopressive Technique (AHT) may be appropriate for treatment of postpartum DRA, lower back pain, and in the treatment of Pelvic organ prolapse and UI. Previous studies do not support AHT in the treatment of SUI, but some studies have shown that the PFM are activated in healthy women as well as women with pelvic floor dysfunction during AHT. This is a verification study to compare PFMT vs AHT in SUI symptoms and quality of life.

**Methods:** Randomized controlled trial. 130 women with untreated SUI.

**Inclusion:** women age 18+ reporting UI and answering “yes” to question 1, which screened for stress UI (p. 2315, right column).

**Exclusion:** If answered “no” to question 1. Previous PT for pelvic floor, stage II+ POP , neuromuscular disease, pregnancy, infections, pelvic surgery

**Examination:** By Urogynecologist: POP evaluation, Leakage with Valsalva noted.

**Data collection:** (collected at 0 and 12 weeks)
- Bladder diary- tracking episodes of UI of 7 days
- ICIQ-SF
- By Physiotherapist: Oxford Grading MMT of PFM strength.
- Peritron - 3 reps of max hold x 5 sec, 10 sec rest.

**Intervention:** Both groups 24 sessions over 12 weeks each 50 min, groups of 2-3; supervision by trained physiotherapists

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<tr>
<th>GROUP</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
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| AHT   | 3 sets of 8 reps.  
1. Supine lying, legs bent  
2. Sitting- arms varied  
3. Cat position 3min btw sets | 3 sets of 10 reps  
1. Supine with alt leg flexed  
2. Sitting-legs out in front- 2 arm positions  
3. Standing against wall- 2 arm positions 3min btw sets | 3 sets of 12 (all positions with arm variations)  
1. Kneeling  
2. Standing without support  
3. Standing-trunk flexion + hand resting on knee 3min btw sets |
| PFMT  | ALL sets: 6 sec hold + 3 fast contractions 1 min btw sets. in:  
1. Lying down  
2. Lying down  
3. sitting | 3 sets of 10 reps, 1min rest btw sets  
1. Lying  
2. Sitting  
3. Standing | 3 sets of 12 reps, 1 min rest btw sets  
1. sitting  
2. standing  
3. ? sitting and/or standing, unclear  
*added 4th quick contraction to sets |

**Outcomes and Results:** (table 2, p. 2319) Improvement chart
Conclusions:
- Both AHT and PFMT improved SUI episodes, ICIQ-SF scores, and PFM strength via peritron testing, but PFMT was superior.
- Authors acknowledge that muscle hypertrophy was unlikely due to the 12 week study, but neural adaptations and increased strength is proposed as the mechanism; also stating that strength gains are likely related to specificity of training local to the PFMs.

Strengths:
- Use of validated outcome ICIQ-SF
- Observed pts for accessory muscle use during peritron testing
- Blinded, experienced assessors
- Homogeneity of groups at start of study; similar drop out rate (minimal overall)
- Supervision of interventions (not an HEP program)

Weaknesses:
- Description of poses difficult to reproduce- pictures would have helped.
- Did participants have any pre-training of the AHT method?
- Varied rest time from the groups. Why?
- Similar # of reps performed but unclear if it is 3 sets in each position or 1 set each position - (It seems logical total 24 reps per session)

DISCUSSION QUESTIONS:
1. Have you ever attempted Hypopressive Exercises/AHT? with a pelvic floor population?
2. Have you every attempted Hypopressive Exercises yourself?
   a. If yes have tried or studied this type of exercise, does it make sense to you that the PFM would not generate a strong PFM contraction over a short duration- what is needed for muscle strengthening in the SUI population?

Other Resources:
Cristine Homsi Jorge Ferreira a, Patrícia Brentegani Barbosa a, Flaviane de Oliveira Souza a, Flávia Ignácio Antônio a, Maíra Menezes Franco a, Bo, K. Inter-rater reliability study of the modified Oxford Grading Scale and the Peritron manometer Physiotherapy. 97 (2011) 132-138 Bø (moderate inter-rater reliability)

Navarro, BN et al. The evaluation of pelvic floor muscle strength in women with pelvic floor dysfunction: A reliability and correlation study. Neurourology and Urodynamics. 2018;37:269-277. (inter-rater and intra-rater reliability of manometry and dynamometry was high)