

## **Prevalence and Treatment of Levator Ani Defects in Danish women after childbirth**

### **– The LEVANI Study**

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**Background:** Vaginal birth is a transformative experience, yet for some women, it leaves behind hidden injuries. Up to 38% experience urogenital symptoms such as urinary incontinence, genital prolapse, vaginal laxity, or sexual difficulties after childbirth. One overlooked cause is levator ani defects – pelvic floor muscle tears that can lead to persistent urogenital symptoms and reduced quality of life. Despite their impact, these injuries remain underdiagnosed and sparsely researched. Existing treatments often provide limited relief, and no structured or evidence-based strategy exists. Vaginal laser therapy has shown promising results in alleviating female urogenital symptoms, but has never been evaluated in young women with levator ani defects after childbirth.

**Aim:** To determine the prevalence of urogenital symptoms in Danish first-time mothers 12 months postpartum, and to evaluate the effect of vaginal laser therapy on urogenital symptoms in women with MRI-verified levator ani defects.

**Methods:** All primiparous women in the Central Denmark Region who gave birth in 2024 will be invited via secure digital mail to complete validated questionnaires 12 months postpartum. Women reporting urogenital symptoms will be invited for a clinical consultation and gynaecological examination. If levator ani defects are suspected, the women will undergo pelvic MRI for confirmation. Women with MRI-verified levator ani defects (n=60) will be randomized 1:1 to receive vaginal laser or sham therapy, consisting of five treatments at 4-week intervals and a follow-up 4-6 weeks after the final treatment. The primary outcome is change in symptom burden, while secondary outcomes include sexual function, patient satisfaction, and adverse events.

**Perspectives:** The LEVANI Study will be the first study to investigate postpartum urogenital health in Danish women. By combining advanced imaging with an innovative, minimally invasive treatment, the study aims to uncover the hidden burden of levator ani defects – and pave the way toward improved recovery, well-being, and quality of life after childbirth.