

Vaginal delivery doubles the risk of stress incontinence compared to cesarean section

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Stress and urgency incontinence are the two most frequent and the most bothersome urinary symptoms among women. It has been estimated that about twelve percent of women report significant bother from stress incontinence and eight percent from urgency incontinence. Urinary incontinence affects hundreds of millions of women worldwide. The costs caused by these symptoms are remarkable.

Ageing, obesity and childbirth increase the risk of urinary incontinence. The [long-term effects](#) of the [delivery](#) mode on urinary incontinence remains uncertain.

The rates of caesarean sections have seen substantial increases since the 1970s. Today, the rates are approximately 24% in the United Kingdom, 33% in the United States, and more than 50% in Brazil.

New information on the long-term impact of the mode of delivery on stress urinary incontinence and urgency urinary incontinence is available from a meta-analysis published in the journal *European Urology*, the most prestigious publication series in the field.

The meta-analysis included 16 studies, eight of which focused on the impact of the mode of delivery on [stress incontinence](#), seven on the mode of delivery on both stress and urgency incontinence, and one on urgency incontinence. The most common comparison was between vaginal delivery and [caesarean section](#) (15 studies that included a total of 45,659 [women](#) examining impact on stress incontinence and 8 studies

including a total of 49,623 examining impact on urgency incontinence). Four studies compared the effect of operative vaginal delivery and spontaneous vaginal delivery on stress incontinence.

According to the meta-analysis, vaginal delivery is associated with an almost twofold increase in the risk of stress urinary incontinence, with an absolute risk increase of 8%, when compared to caesarean section. The effect is larger in younger women and decreases as time passes from the delivery. Compared with caesarean section, vaginal delivery is associated with increased risk of urgency incontinence also, but with an absolute risk increase of only 3%. No difference was found between operative vaginal delivery (vacuum, forceps) and spontaneous [vaginal delivery](#).

"Our meta-analysis provides important information about the causes of urgency and stress [urinary incontinence](#) in women, quantify one important aspect of caesarean section, and help women and their physicians make decisions regarding mode of delivery", according to obstetrics and gynaecology consultant Riikka Tähtinen from Kuopio University Hospital, and adjunct professor Kari Tikkinen from Helsinki University Hospital.

"When choosing the mode of delivery, a variety of factors must be considered. A planned caesarean section increases the baby's risk of needing emergency care and the mother's risk of developing blood clot, bleeding as well as uterine rupture and placental adhesion disorders in subsequent pregnancies", says Tähtinen.

"Our review shows that the delivery mode has impact on the pelvic floor health. In future, it would be useful to identify better those women who are at high risk of developing these problems and to take this better into consideration when deciding their delivery mode. However, childbirth should not be unnecessarily medicalised, and we should bear in mind

that the operation for stress incontinence is smaller and less invasive than caesarean section", concludes Tikkinen.

The Mode of delivery and urinary leakage (MODULE) project was carried out by the CLUE Working Group, whose main sponsors are the Academy of Finland, Sigrid Jusélius Foundation and Jane and Aatos Erkko Foundation.

More information: Riikka M. Tähtinen et al. Long-term Impact of Mode of Delivery on Stress Urinary Incontinence and Urgency Urinary Incontinence: A Systematic Review and Meta-analysis, *European Urology* (2016). [DOI: 10.1016/j.eururo.2016.01.037](https://doi.org/10.1016/j.eururo.2016.01.037)

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