

# Vaginal Delivery Linked to High Incontinence Risk

*Odds of pelvic floor disorders are increased nearly twofold, compared with cesarean delivery, nulliparity.*

BY KATE JOHNSON  
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MONTREAL — Vaginal delivery is associated with a near twofold increased odds of pelvic floor disorders, compared with cesarean delivery and nulliparity, according to results of a large epidemiologic study.

"This study finally gives us some numbers to hang our hat on, with respect to pelvic floor dysfunction, when we are counseling patients about vaginal versus cesarean delivery," the study's principal investigator, Emily Lukacz, M.D., said at the annual meeting of the International Continence Society.

"A twofold increased odds of a pelvic floor disorder sounds like a lot, but surgical delivery is not without its own risks," she said in an interview, adding that the protective effects of cesarean section must be balanced against the known risks of surgical delivery.

She cautioned that although the study shows an association between vaginal delivery and pelvic floor disorders, it does not prove causality.

"We are really still in the infancy of understanding the role of mode of delivery on the development of pelvic floor disorders until we can have a randomized, controlled trial of vaginal versus cesarean delivery, which will likely never happen," said

Dr. Lukacz of the University of California, San Diego Medical Center.

Still, she said that she suspects it's hard not to link the trauma caused by vaginal delivery to many of these disorders. "There are not many things that can cause that kind of damage," she said. "However, not all women who deliver vaginally develop pelvic floor disorders. Therefore, future research should be aimed at identifying women at risk for developing pelvic floor disorders due to vaginal delivery."

The Kaiser Permanente continence-associated risk epidemiology study was a population-based study of 12,200 randomly selected women between the ages of 25 and 84.

Using the validated Epidemiology of Prolapse and Incontinence Questionnaire, researchers assessed participants for symptoms and signs of stress urinary incontinence, overactive bladder (with or without leakage), and anal incontinence (leakage of solid, liquid, or gas), as well as pelvic organ prolapse.

A total of 4,103 surveys had sufficient information for analysis, and these were then categorized into three birth groups. The nulliparous group (19%) included women who had never been pregnant, or who had never delivered a baby larger

than 4.5 pounds. The cesarean section group (10%) included women who had delivered only by cesarean section (with or without prior labor), or with no vaginal deliveries of more than 4.5 pounds. The vaginal delivery group (71%) included women with a history of a vaginal delivery of more than 4.5 pounds.

After adjusting for age, BMI, and parity, the vaginal delivery group had higher rates of every disorder, compared with the nulliparous and cesarean groups. (See chart.)

The study results are "highly controversial" but in line with other research, particularly the large Norwegian Epidemiology of Incontinence in the County of Nord-Trøndelag (EPINCONT) study. That Norwegian study found vaginal delivery associated with a higher risk (odds ratio 2.2) of moderate to severe urinary incontinence compared with cesarean delivery (N. Engl. J. Med. 2003;348:900-7), Dr. Lukacz said.

Dr. Lukacz and her team also per-

formed a subanalysis of the cesarean section group to assess the impact of cesarean sections that involved labor and those that did not; they found a significantly higher prevalence of prolapse in the group that underwent labor, as well as a trend toward a higher prevalence of stress incontinence.

The rates of overactive bladder, anal incontinence, and overall pelvic floor disorders did not differ significantly between groups in the subanalysis. "The mechanism of trauma may be different for the development of the different disorders," she suggested.

Dr. Lukacz noted that while great efforts continue in the treatment of incontinence, a shift in focus toward prevention is crucial. "The key is being able to identify who is at risk for developing those conditions—and this is a step in that direction."

The study was funded by the National Institute of Child Health and Human Development. ■

## Outcomes by Birth Group

	Vaginal Delivery	Nulliparous	Cesarean
At least one pelvic floor disorder	42%	27%	27%
Pelvic organ prolapse	8%	4%	4%
Stress urinary incontinence	18%	11%	8%
Overactive bladder	15%	9%	9%
Anal incontinence	28%	19%	16%

Source: Dr. Lukacz

# Postpartum Endoanal Scan Helps Project Incontinence Risk

BY KATE JOHNSON  
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MONTREAL — Endoanal ultrasound performed immediately postpartum can identify clinically occult anal sphincter defects, which are linked to an increased risk of anal incontinence, according to a British study.

"This technology can improve our prediction of incontinence and has the potential to be used to target postnatal follow-up to women at increased risk," said Philip Tooze-Hobson, M.D., a consultant gynecologist at Birmingham (England) Women's Hospital.

Speaking at the annual meeting of the International Continence Society, Dr. Tooze-Hobson outlined his study, which compared findings from endoanal ultrasounds performed immediately after delivery in 198 women with anal incontinence. Questionnaires were administered at 6 weeks postpartum.

Clinical evidence of anal sphincter damage had been ruled out in all women after clinical examination by two separate assessors.

While 60% of study participants had intact external and internal anal sphincters seen on endoanal ultrasound, and 30% had an isolated external anal sphincter defect only, the remaining 10% of participants had either defects in both sphincters or such profound distortion of the sphincters

that the anatomy was not interpretable.

Among this latter group, 30% of the women reported anal incontinence symptoms at 6 weeks postpartum—which was threefold the rate of the rest of the study participants.

"A severely abnormal endoanal ultrasound scan immediately postpartum increases the risk of anal incontinence three times when compared [with] women with a normal ultrasound or an isolated [external anal sphincter] defect," Dr. Tooze-Hobson concluded.

He said the clinical absence of ultrasound-detected anal sphincter damage "confirms the concept of occult anal sphincter damage" and could prove very important on a medico-legal level in showing that anal sphincter may not have been "missed" by obstetricians but may be "genuinely occult."

Endoanal detection of defects also could predict which women should be followed closely for symptoms of incontinence, he said.

Although participants in Dr. Tooze-Hobson's study were not managed any differently based on their endoanal ultrasound results (all had clinically intact sphincters),

another recent study altered management when endoanal ultrasound revealed a defect (Obstet. Gynecol. 2005;106:6-13).

"We showed that it is very possible for any resident to be trained to diagnose these clinically occult defects by ultrasound, and that managing these defects definitely improved the outcome," said

Dr. med. Daniel Faltin, one of the authors of that study, who was present in the audience. Dr. Faltin is director of the Dianuro perineology center and consultant in obstetrics and gynecology at the Hôpitaux Universitaires in Geneva.

Dr. Faltin's study randomized 752 primiparous women to clinical and endoanal ultrasonographic examination of the anal sphincter immediately postpartum (experimental group), or clinical examination alone (control group).

In the control group, clinically detected anal sphincter tears were repaired. In the experimental group, when anal sphincter defects were detected, the anal sphincter was surgically exposed and examined, and repairs were made when a tear was identified.

The authors reported a benefit in adding endoanal ultrasonography to the standard clinical exam. At 3 months postpartum, se-

vere incontinence was reported by 3.3% of women in the repair group, compared with 8.7% of women in the control group.

The benefit persisted at 1 year, reported the authors, with severe incontinence reported by 3.2% of the intervention group, compared with 6.7% of the control group.

But the chairman of the session, Abdul H. Sultan, M.D., questioned the value of postpartum endoanal ultrasound, dismissing the idea of occult defects as "more of a myth than anything else."

"You can pick these defects up clinically if you are properly trained," he said in an interview. "If you can see what you're looking for, that is the best way forward—all you need to do is improve your clinical skills."

Dr. Sultan, who is a consultant obstetrician and gynecologist at Mayday University Hospital in Croydon, England, runs courses on the clinical recognition and repair of obstetrical anal sphincter defects.

"Even if you see a defect on ultrasound, you've still got to find it clinically. Otherwise, you cannot repair it," he said.

Dr. Sultan pointed out that in the Faltin study, five women had an anal sphincter tear diagnosed by ultrasonography that could not be confirmed during surgical exploration of the perineum. Of these women, one reported severe incontinence at 3 months and 1 year postpartum. ■

**Technology used immediately postpartum can improve prediction of incontinence and target postnatal follow-up to women at increased risk.**