

RESEARCH, PATIENT CARE, PRESS RELEASES | OCTOBER 16, 2019

# Surgical Technique Used in Cesarean Deliveries Eliminated a Severe Bleeding Complication



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**A** surgical technique used in certain cesarean deliveries eliminated the occurrence of a common complication that causes severe bleeding, according to a new study.

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[Clarel Antoine, MD](#)

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The study, recently published online in *The Journal of Maternal-Fetal & Neonatal Medicine*, found no instances of placenta accreta—a condition that can occur during pregnancy when the placenta attaches too deeply into the uterine wall—when doctors utilized a specific surgical technique called the endometrium-free uterine closure technique, or EFCT, to close the cesarean incision. Placenta accreta can lead to significant blood loss after delivery, often requiring a transfusion.

The percentage of cesarean deliveries performed in the United States has risen from 4.5 percent in 1965 to 33 percent today. Along with this increase has come a jump in cases of placenta accreta, from 1 in 2,510 pregnancies in the 1980s to 1 in 333 pregnancies in the past decade.

Placenta accreta is believed to occur as the result of a cesarean or other uterine scar. The risk increases with the number of cesarean deliveries or other uterine surgeries a person has had.

The new study found that none of the patients treated using EFCT during the surgical closure of the uterus after cesarean delivery experienced placenta accreta in their cesarean scars. This was the case even in the presence of associated risk factors of anterior placenta and placenta previa and regardless of the number of repeat cesarean deliveries a person had.

“These findings could have a major impact on the way C-sections are currently performed, reduce severe maternal complications, and save the lives of mothers nationally,” says lead author [Clarel Antoine, MD](#), associate professor in the [Department of Obstetrics and Gynecology](#) at NYU Langone Health.

## How the Study Was Conducted

For the current study, Dr. Antoine and his team looked at cesarean deliveries and subsequent [vaginal births after cesarean delivery](#) among all of the deliveries performed in his practice from 1985 to 2015. The sample included patients with up to nine consecutive cesarean deliveries. In all, the study examined patient outcomes after 727 cesarean deliveries, 109 vaginal births after cesarean, and 4,496 total births.

## **A Promising Technique for Better Maternal Outcomes**

Currently, the American College of Obstetricians and Gynecologists does not endorse any particular method of closing the uterus after a cesarean delivery. Dr. Antoine hopes this study will change that.

EFCT relies on the identification of the endomyometrial junction—the place where the endometrium, the innermost part of the uterine lining and myometrium, or uterine wall, meet—for placing the needle as the surgeon begins to close the uterus after a cesarean delivery. These steps outlined in the research provide distinct anatomical landmarks aimed to set surgical standards in the field and help to educate surgeons on EFCT.

Researchers hypothesize that placenta accreta is caused by a uterine scar defect at this endomyometrial junction.

“Our use of this technique minimizes scarring between the layers of the uterine lining at the incision site, making abnormal placental implantation unlikely,” explains Dr. Antoine.

While the study has encouraging results, researchers point out limitations, including a lack of a matched control group, sample size, and the fact that the procedure was performed by one doctor at one institution.

Dr. Antoine says clinical trials are now needed with larger patient populations to further evaluate the impact of EFCT on future placentation in pregnancies after a prior cesarean delivery.

Along with Dr. Antoine, additional study authors include Ricardo N. Pimentel, MD, Department of Obstetrics and Gynecology, NYU School of Medicine; [Cheongeun Oh, PhD, Department of](#)

[Population Health](#), NYU School of Medicine; and E. Albert Reece, MD, PhD, Department of Obstetrics, Gynecology, and Reproductive Sciences, University of Maryland School of Medicine.

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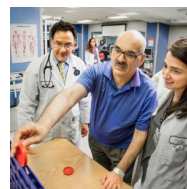
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