



Personalizing Maternal Care: Tools for Assessing Repeat C-Section Risks

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ABOUT THE STUDY

The development of tools to estimate the risks associated with repeat Cesarean sections (C-sections) represents a significant advancement in obstetric care. As the number of C-sections continues to rise globally, understanding and mitigating the risks of subsequent surgeries has become a critical aspect of maternal health. This commentary explores the importance and impact of risk estimation tools for repeat C-sections, discussing their development, implementation, and the broader implications for maternal health care.

C-sections are one of the most common surgical procedures performed worldwide, and their frequency has increased significantly over the past few decades. While a C-section can be life-saving for both the mother and the baby, it also carries inherent risks, particularly when repeated. Complications from repeat C-sections can include increased risk of infection, hemorrhage, surgical injury, and complications related to anesthesia. Additionally, the risk of placental abnormalities, such as placenta previa and placenta accreta, increases with each subsequent C-section.

Given these risks, it is imperative for healthcare providers to have reliable tools to estimate the likelihood of complications in women undergoing repeat C-sections. Such tools can help guide clinical decision-making, enabling personalized care that optimizes outcomes for both mother and child. Risk estimation tools typically incorporate a range of factors, including maternal age, Body Mass Index (BMI), gestational age, the number of previous C-sections, and any underlying medical conditions. By analyzing these variables, the tools can provide a risk profile that informs discussions between healthcare providers and patients about the safest delivery method.

The development of these tools is rooted in extensive research and data analysis. Large-scale studies and clinical trials have been conducted to identify the key risk factors associated with repeat C-sections. These studies have led to the creation of algorithms and predictive models that can assess the likelihood of complications. For example, some tools use logistic regression

models to estimate the probability of adverse outcomes based on patient-specific factors. Others may employ machine learning techniques to enhance predictive accuracy.

One widely recognized tool is the Vaginal Birth after Cesarean (VBAC) calculator, which estimates the likelihood of a successful vaginal delivery in women who have had a previous C-section. While the VBAC calculator primarily focuses on predicting the success of a vaginal delivery, it also provides valuable insights into the risks associated with attempting a vaginal birth *versus* opting for a repeat C-section. This tool has been instrumental in promoting informed decision-making and supporting shared decision-making between patients and healthcare providers.

The implementation of risk estimation tools in clinical practice has several benefits. Firstly, it allows for individualized risk assessment, which is important in managing the complex and varied factors that influence maternal and fetal outcomes. By providing a personalized risk profile, these tools enable healthcare providers to manage their recommendations to each patient's unique circumstances. This personalized approach can improve patient satisfaction and trust, as patients are more likely to feel involved in their care and confident in their treatment plans.

Secondly, risk estimation tools can help reduce the incidence of unnecessary repeat C-sections. By accurately identifying women at lower risk of complications, healthcare providers can support and encourage attempts at VBAC, which can be a safer option for many women. Reducing the rate of repeat C-sections can decrease the overall burden on healthcare systems, lower healthcare costs, and reduce the risks associated with surgical deliveries.

However, the use of risk estimation tools also presents challenges. One major challenge is ensuring that these tools are accessible and user-friendly for healthcare providers. Training and education are essential to ensure that clinicians can effectively integrate these tools into their practice. Additionally, there is a need for continuous evaluation and refinement of the

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tools to maintain their accuracy and relevance as new research and data become available.

Another challenge is addressing disparities in access to and utilization of risk estimation tools. Socioeconomic factors, geographic location, and healthcare infrastructure can influence the availability and use of these tools. Efforts must be made to ensure that all women, regardless of their background or circumstances, can benefit from personalized risk assessment and informed decision-making in their maternity care.

CONCLUSION

In conclusion, tools to estimate the risks of repeat C-sections are a valuable asset in modern obstetric care. They support

personalized and evidence-based decision-making, improve patient outcomes, and can help reduce unnecessary surgical interventions. As research and technology continue to advance, these tools will likely become even more integral to optimizing maternal and fetal health. However, it is essential to address the challenges of implementation and accessibility to ensure that all women can benefit from these advancements in maternal healthcare.