

Reducing Risk of Injury and Payouts in Obstetrics

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From the perspective of a physician malpractice insurer, obstetrical liability payments usually form the largest portion of all malpractice dollars paid out. One obstetrical complication, shoulder dystocia, is responsible for anywhere from 900 to 1,500 permanently disabled newborns every year and constitutes the second highest category of payouts in OB. Thus the issue of shoulder dystocia presents itself as a problem worthy of investigation in order to gain a better understanding of its causes and to find ways to mitigate its risk.

A cursory review of this complication is sufficient to reveal what has until now been the major problem in trying to prevent shoulder dystocia-related injuries: The standard conclusion of most of the medical literature on shoulder dystocia is that it is entirely unpredictable and hence unpreventable. While this may have some exculpatory benefit for physicians being sued when a shoulder dystocia injury occurs, even this benefit is limited. In court all too often the judgment is made that despite what the medical literature says, somehow the physician still was at fault and his or her insurer must pay.

Is the prediction of shoulder dystocia really an insurmountable problem? Fortunately, medicine is replete with instances where advances were made when the conventional wisdom held that this was impossible. Occasionally, breakthrough research can suddenly eradicate major diseases. Penicillin and insulin are famous examples. More contemporary examples are the myriad of procedures now possible with “minimally invasive”—laparoscopic—surgery, procedures that no one believed possible without open abdominal surgery a few decades ago. Sometimes solutions exist for fundamentally similar problems in very different fields. Medical ultrasound, for example, was born from

military sonar developed for submarine detection.

Let’s examine an approach from the field of architecture and statistics that might be employed in tackling the shoulder dystocia problem.

Shoulder dystocia is defined as the failure of a baby’s

body to deliver with routine obstetrical maneuvers after the delivery of the head. It usually represents a basic problem of misfit between the size of the baby and the size of the mother’s pelvis. Conventional wisdom holds that the only possible way to predict this



problem is by estimating whether or not a baby exceeds a size known to be associated with an increased risk of shoulder dystocia.

Architects readily recognize in problems of misfit that the size of both the object and the passage are important. Statisticians recognize that there is great biological diversity in the combinations of maternal and fetal sizes. These observations have led to a new approach to the prediction of shoulder dystocia.

After years of research, we have developed a tool—called the CALM Shoulder Screen™—that can effectively identify those pregnant women at highest risk for shoulder dystocia.

The research began with a review of roughly 500 cases of shoulder dystocia complicated by fracture or brachial plexus injury. On average, when compared to a group of women who delivered vaginally without shoulder dystocia, injuries were seen to be more frequent with heavier, shorter mothers and with bigger babies. Using modern statistical techniques we developed an equation using these factors to identify which mothers had the most unfavorable, highest risk combinations. A positive test identified 43 % of women who would go on to have shoulder dystocia while holding the false positive rate to

only 2.7%. What's more, when the equation was tested in an independent series of over 100 cases of shoulder dystocia that went to litigation, its predictive value was even higher: Fully 68% of these cases with permanent brachial plexus injury were identified. ***This is a significant step towards reducing both the medical and the medical-legal problems of shoulder dystocia.***

The advantages of examining multiple factors and employing them in a predictive formula are obvious. First, by measuring several factors we advance from the very simplistic notion that it is only the size of the baby that counts. Second, we decrease our reliance on the single factor of the baby's size—which is difficult to estimate—and incorporate other relevant factors that are easier to measure.

There are other benefits. Now it will be possible in many cases to avoid shoulder dystocia deliveries rather than depend upon clinicians to resolve them by performing specialized delivery techniques at moments when all are under great stress. Also, by finding the most "unfavorable misfit" cases, we may anticipate those shoulder dystocias that are most likely to result in permanent injury. Finally, by sharing the results of this predictive tool with patients, not only will patients be well informed of the risks of whatever delivery option they chose, but also it will be documented.

How Deeply Will This Impact Payouts?

Payouts are difficult to predict, but it is incontestable that if the number of injuries falls, so will the amount paid out on their behalf. Preliminary evaluation thus far of data provided by physician insurers indicates that the CALM Shoulder Screen would have detected—and hence likely avoided—80% of shoulder dystocia related payouts over a 10-year period.

When Will the CALM Tool Be Ready For Implementation?

It is ready now. In fact, it is currently being utilized in a busy obstetrical practice in Massachusetts, where its implementation has been simple and the workload required to incorporate it into practice minimal.

This is truly a case where insurers, by considering the inauguration of the CALM Shoulder Screen in the obstetrical practices they insure, have an opportunity to provide leadership and incentives to support increased patient safety through advanced clinical tools. ●

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