Outcomes Data: Open Fetal Surgery for Spina Bifida (Myelomeningocele) Repair

First in Texas
Physicians affiliated with The Fetal Center at Children’s Memorial Hermann Hospital were the first in Texas to perform open fetal surgery for the repair of myelomeningocele, the most severe form of spina bifida, in May 2011. This procedure followed the published results from the seven-year multicenter clinical trial, the Management of Myelomeningocele Study (MOMS), in March 2011. Overall, The Fetal Center’s outcomes data is better than or mirrors those reported in the MOMS trial.

Below is an overview of The Fetal Center’s clinical outcomes data for the fetal surgical repair of spina bifida. The data is compared to the MOMS trial results, which included 183 surgically eligible randomized patients – 80 patients underwent postnatal surgical repair and 78 underwent fetal surgery for spina bifida repair.

We strive to be transparent and provide up-to-date information on our patient outcomes. Our hope is that the data below serves as a helpful resource when making informed decisions regarding care.

For more information or to speak with a clinician at The Fetal Center, call 832.325.7288 or email thefetalcenter@memorialhermann.org.

Overview
Since The Fetal Center’s opening in 2011, the program has grown in a number of ways. As a national referral program, The Fetal Center currently receives patient referrals from 36 states and continues to serve as a leader in fetal diagnosis, fetal intervention and comprehensive fetal care for unborn babies with abnormalities.

For the fetal spina bifida repair, the number of open fetal surgeries performed by The Fetal Center’s affiliated specialists has increased since 2011 with a significant rise in procedures within the last two years. The data below includes the number of open fetal surgeries performed year-over-year (YOY) since The Fetal Center’s opening.

Number of Fetal Surgeries for Spina Bifida Repair

(over)
Since 2011, The Fetal Center has evaluated more than 239 women for fetal spina bifida repair; 107 patients met criteria for fetal surgery and 77 patients elected to undergo open fetal surgical repair. The data below is an overview of The Fetal Center’s clinical outcomes data from May 2011 – November 2018.

### Fetal Surgery for Spina Bifida Repair – Summary

<table>
<thead>
<tr>
<th></th>
<th>The Fetal Center Cohort (n=77)</th>
<th>MOMS Trial – Fetal Surgery (n=78)</th>
<th>MOMS Trial – Postnatal Surgery (n=80)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gestational Age at Surgery</td>
<td>25.09 ± 0.5</td>
<td>23.6 ± 1.4</td>
<td>n/a</td>
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<tr>
<td>Gestational Age at Delivery</td>
<td>34.82 ± 3.2</td>
<td>34.1 ± 3.1</td>
<td>37.3 ± 1.1</td>
</tr>
<tr>
<td>Perinatal/Neonatal Demise</td>
<td>3 (4%)</td>
<td>2 (3%)</td>
<td>2 (2%)</td>
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<tr>
<td>VP Shunt at One Year</td>
<td>28/67 (42%)</td>
<td>31/78 (40%)</td>
<td>66/80 (82%)</td>
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(The Fetal Center) Date range: May 2011 – November 2018; N = 77 patients. As of November 2, 2018, seven patients are pending delivery.

### Gestational Age at Delivery

Mothers who undergo open fetal surgery for spina bifida repair are asked to remain in Houston for the first two weeks following surgery. In the majority of cases, they return to their homes and are then co-managed with their referring maternal-fetal medicine specialist with a scheduled C-section delivery at 37 weeks. Overall, 37 percent of our patients delivered past 37 weeks gestation as compared to 21 percent in the MOMS trial. At The Fetal Center, the mean gestational age at delivery is 34.8 weeks and the median is 36.4 weeks.

### Maternal Complications

The affiliated team makes significant efforts to eliminate or minimize any potential maternal complications related to fetal surgery. For most of the conditions considered below, The Fetal Center had a lower complication rate as compared to the MOMS trial.

### Ventriculoperitoneal (VP) Shunt Rate

The MOMS trial showed increasing benefits to the baby, including a reduction in the need for shunts. Overall, The Fetal Center’s cohort data closely mirrored the VP shunt rate of the MOMS trial.

### Perinatal/Neonatal Demise

We encourage you to reach out to other healthcare centers to request and review their outcomes data in order to utilize the information available when choosing your healthcare options.

For more information about our data, call 832.325.7288.

1 Located within the Texas Medical Center, The Fetal Center is affiliated with Children’s Memorial Hermann Hospital, McGovern Medical School at UTHealth, and UT Physicians.