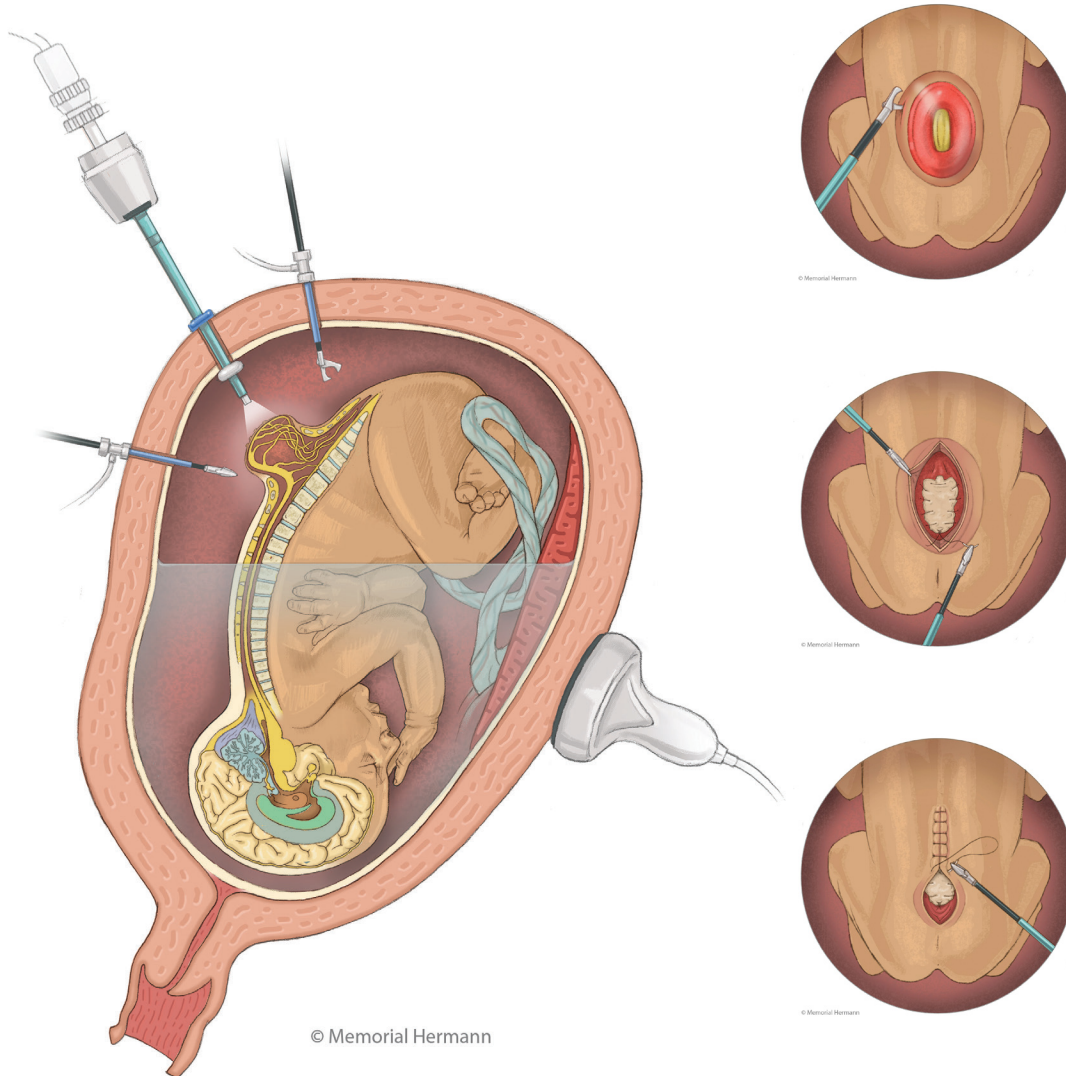


Laparotomy-Assisted Fetoscopic Spina Bifida Repair

UTHealth Houston Fetal Center physicians are available 24 hours a day, seven days a week. To speak with a clinical specialist, call **832-325-7288**.



The Fetal Center is the first in the world to use human umbilical cord as meningeal patch during fetoscopic spina bifida repair, and we have completed 100 repairs.

96 patients delivered

- 47% of patients delivered vaginally
- 30% of patients experienced rupture of membranes
- Average gestational age at delivery: 35 weeks, 6 days
- No CSF leakage at birth
- No fetal or perinatal deaths

CSF diversion/shunt rates

- 36% at 12 months of age

Release of tethered cord

- 0% have had surgery for tethered cord before 12 months of age

Ambulation and lower motor function studies are ongoing

**Fetoscopic outcomes data current as of 11/1/2024*

Our Research and Innovation

Mann LK et al. Morphometric Analysis of Spina Bifida after Fetal Repair Shows New Subtypes with Associated Outcomes. medRxiv [Preprint]. 2024 May 29;2024.05.29.24308088. <https://pubmed.ncbi.nlm.nih.gov/38853851/>

Backley S et al. Fetal cardiovascular changes during open and fetoscopic in-utero spina bifida closure. Ultrasound Obstet Gynecol. 2024 Jan 11. <https://pubmed.ncbi.nlm.nih.gov/38207160/>

Mann LK et al. Cryopreserved human umbilical cord as a meningeal patch during in utero spina bifida repair in a modified ovine model. J Neurosurg. 2023 Mar 24;139(4):1169-1179. <https://pubmed.ncbi.nlm.nih.gov/36964735/>



UTPhysicians.com/TheFetalCenter
832-325-7288

@thefetalcenter

Spina Bifida Repair vs. Laparotomy Assisted Fetoscopic Spina Bifida Repair

	Open In Utero Repair	Laparotomy-Assisted Fetoscopic Repair Under IDE
Eligibility criteria	MOMS criteria – BMI <45	Same as open in utero repair
Surgery time	3-4 hours	3-5 hours
Technique	Uterine incision 5-6 cm length	3 incisions (3-6 mm in diameter) Heated humidified carbon dioxide gas for insufflation
Fetal repair method	Conventional dissection Myofascial layer closure Primary skin closure or patch closure	Dissection HUC meningeal patch (cost covered by research) Primary skin closure or a patch
Post-op management	Magnesium sulfate for 24 hours	Magnesium sulfate only during surgery
Pain management	QL blocks/PCA pump	Epidural/QL blocks/PCA pump
2 weeks post-op	Stay in Houston area (within 30 minutes from the hospital)	Stay in Houston area for 1-2 weeks (no need to stay within 30 minutes from the hospital)
After 2 weeks from post-op	Return home with following requirements: Referring physician and primary OB responsible for care Live 30 minutes from the hospital 24 hours caregiver available Contact the doctor and go to hospital immediately at the onset of contractions	Referring physician and primary OB responsible for care Does NOT need to be within 30 minutes from the hospital Labor precautions like normal singleton pregnancy Return to Houston at 32 weeks of gestation
Long-term tocolysis	Nifedipine until 36 weeks	May consider discontinuing at 1 week after surgery
Delivery time and route	Gestational age 37 weeks Cesarean section delivery only May use the vertical skin incision from the in utero repair Lower transverse uterine incision Applied to future pregnancies (10% risk of uterine rupture)	Regular obstetrical indications for timing and route of delivery Patient can deliver vaginally if indicated
Follow-up period	Per availability of local pediatric subspecialties	1 month, 12 months (including MRI), 30 months, and 5 years



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