

**CURRICULUM VITAE
NOEL B. TULIPAN, M.D.**

ACADEMIC POSITIONS

1999 - Present **Professor, Neurological Surgery
Vanderbilt University Medical Center
Nashville, TN**

CURRENT MEDICAL STAFF APPOINTMENTS

1986 - Present **Vanderbilt University Hospital
Nashville**

1986 – 2010 **Veterans Administration Hospital
Nashville, TN**

CERTIFICATION

1989 **The American Board of Neurological Surgeons
DIPLOMATE**

1996 **The American Board of Pediatric Neurological
Surgery
DIPLOMATE**

LICENSURE

1985 **State of Tennessee Medical License**

BIOGRAPHICAL

Birthplace: New York City, New York

Date of Birth: July 30, 1951
Citizenship: United States

Home Address: 8533 McCrory Lane
Nashville, TN 37221

Home Phone: 615-646-9281

Married: Donna S. Hummell, M.D.

Children: Rachel Tulipan
Hunter Tulipan

Office Address: Vanderbilt University Medical Center
Department of Neurological Surgery
9226 Doctor's Office Tower
Nashville, TN 37232-9557
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EDUCATION AND TRAINING

College: The Johns Hopkins University, Baltimore, MD
B.A. Human Biology 1977

Medical School: The Johns Hopkins University, Baltimore, MD
M.D. 1980

Internship: The Johns Hopkins Hospital, Baltimore, MD
Surgery 1980-1981

Residency: The Johns Hopkins Hospital, Baltimore, MD
Neurosurgery 1981-1986

HONORS

1978	Phi Beta Kappa
1981	Alpha Omega Alpha

ORGANIZATIONAL MEMBERSHIPS

American Association of Neurological Surgeons

American Academy of Pediatrics, Tennessee Chapter

American Society of Pediatric Neurosurgeons

American Association of Neurological Surgeons
Section on Pediatric Neurological Surgery

CLINIC ADMINISTRATION

Co-Director: Vanderbilt University Hospital

Spina Bifida Clinic

COMMITTEES

Child Abuse Committee, Vanderbilt Hospital

Children's Hospital Medical Advisory Board

Pediatric Critical Care Committee/PICU
Vanderbilt University Hospital

QA Critical Indicator Screening Committee,
Vanderbilt University Hospital

**National Neurofibromatosis Foundation,
Tennessee Chapter**

**Children's Operating Room Committee
Vanderbilt University Hospital**

GRANT SUPPORT:

**National Institutes of Health
NIH Grant # NS 24254
Neural Grafting: A Potential Therapy in
Huntington's Disease
Project Period: 7/1/87 - 6/30/90, \$220,612**

**The Wills Foundation
Grant # VUH 526795
Adrenal Medullary Grafting: A Potential
Therapy for Huntington's Disease
Project Period: 7/1/87 - 6/30/88, \$17,385**

**Spina Bifida Association of America
Neurologic Outcome After Intrauterine
Myelomeningocele Repair
Project Period: 1/1/99 - 12/31/99, \$25,000**

CURRENT RESEARCH INTERESTS

Robotic Intrauterine Surgery

Intrauterine repair of myelomeningocele.

**Principal Investigator, Prognostic Value of Transforming Growth Factor-
Beta 1 in Normal Pressure Hydrocephalus Prospective Trial of TGF-B levels
in the CSF of patients undergoing shunting for NPH funded by Medtronic
Corporation \$50,000.**

RESEARCH MENTORING

**1985/6 - Central Nervous System Transplantation
Dr. Lenwood Smith, Resident**

**1989/90 - Immunologic Aspects of Central Nervous System
Transplantation, Dr. Michael King, Resident**

**1998/9 - Biochemical Changes in the Cerebrospinal Fluid After Central
Nervous System Transplantation, Dr Steven Abram, Resident**

**1992/3 - Animal Model for Endoscopic Intrauterine Repair of
Myelomeningocele, Dr. Michael Copeland, Resident**

1996/7 - Amniotic Fluid Neurotoxicity, Dr. Michael Drewek, Resident

1998/9 - Amniotic Fluid Neurotoxicity, Dr. Matthew Pearson, Resident

2001/2 – Robotic Intrauterine Surgery, Dr. Oran Aaronson, Resident

INVITED LECTURES:

**United Parkinson Foundation, Workshop, " Brain Implants in Parkinson's Disease
Patients", Chicago, IL, March 26-27, 1987**

**Neuro Nursing Conference, " New Approaches to Brain Transplantation for
Parkinsonism", Atlantic City, NJ, September 22, 1987**

**New Jersey Branch of the American College of Surgeons, " Adrenal Medullary
Transplantation", New Brunswick, NJ, December 11, 1987**

**Fifteenth Annual Neurology Symposium, " Surgical Experience with the Adrenal
Brain Transplant Surgery", Kaiser Permanents, Santa Monica, CA, February 27,
1988**

**Medical Ethics Conference -In the Shadow of Death, " Defining Death" University of
Tennessee at Chattanooga, Chattanooga, TN, May 12, 1988**

Department of Neurosurgery, College of Medicine, The University of New Frontiers in Neuroscience: Neural Tissue Grafts and CNS Repair, The Vanderbilt Experience in Human Medullary Transplants in the Treatment of Parkinsonism", Sponsored by the Center for Neuroscience, the Department of Anatomy and Neurobiology and The Department of Neurosurgery, College of Medicine, The University of Tennessee, Memphis, TN, May 13, 1988

Huntsville/Madison County Mental Health Board, "Huntington's Disease Research", Huntsville, AL, May 24, 1988

Twelfth Annual Meeting of the American Association of Tissue Banks, "Use of Adrenal Cell Transplants in the Treatment of Neurological Diseases", San Diego, CA, August 23, 1988

Visiting Scholar, Beijing Neurosurgical Institute, Beijing, China, February 1989

III International Symposium, Neural Transplantation, "Transplantation of Adrenal Medullary Tissue to Caudate in Parkinson's Disease", Cambridge, England, August 6-11, 1989

Fifty-eighth Annual Meeting, American Association of Neurological Surgeons, "Adrenal Transplants/Parkinson's Disease", Nashville, TN April 30, 1990

The Tennessee Neurosurgical Society Annual Meeting, "Fetal Intrauterine Neurosurgery", Nashville, TN, November 2, 1996

American Society of Pediatric Neurosurgeons Annual Meeting, "Intrauterine Repair of Myelomeningocele", Lanai, HI, February, 1998

Pediatric Section of AANS, Annual Meeting, "Reduced Hindbrain Herniation After Intrauterine Myelomeningocele Repair", Indianapolis, IN, December, 1998

International Fetal Medicine and Surgery Society, Annual Meeting, "Neurologic Outcome After Intrauterine Myelomeningocele Repair", Carlisle, Great Britain, May, 1999

International Society for Pediatric Neurosurgery, Annual Meeting, “Neurologic Outcome After Intrauterine Myelomeningocele Repair”, Salt Lake City, UT, September, 1999

Pediatric Section of the American Association of Neurologic Surgeons, “Intrauterine Myelomeningocele Repair”, Atlanta, GA, December, 1999

American Association of Neurologic Surgeons, Annual Meeting, “Intrauterine Myelomeningocele Repair”, San Francisco, CA, April, 2000

Society for Research into Hydrocephalus and Spina Bifida, “The Effect of Intrauterine Myelomeningocele Repair on Hydrocephalus”, Atlanta, GA, June, 2000

Johns Hopkins Hospital, Grand Rounds, “Intrauterine Repair of Myelomeningocele”, Baltimore, MD, August 2001

Annual Meeting of Japanese Society for Pediatric Neurosurgery, “The Effect of Intrauterine Myelomeningocele Repair on Hydrocephalus”, Shizuoka, Japan, September 2001

World Congress of Neurosurgery, “Fetal Surgery”, Sydney, Australia, September 2001

Congress of Neurological Surgeons, “Myelomeningoceles: Fetal Surgery and Other Innovations”, San Diego, CA, October 2001

American Association of Neurological Surgeons/Congress Neurological Surgeons, “Intrauterine Myelomeningocele Repair”, New York, NY, November 2001

American Academy for Cerebral Palsy and Developmental Medicine, “Role of Intrauterine Myelomeningocele Repair” Los Angeles, CA, September 2004

BIBLIOGRAPHY

Tulipan N, Zacur H, and Allen G: Pituitary Transplantation: Part I: Successful reconstitution of pituitary-dependent hormone levels. Neurosurgery 1985 16:331-335.

- Tulipan N, Huang S, and Allen G: Pituitary Transplantation: Cyclosporine enables transplantation across a minor histocompatibility barrier.
Neurosurgery 1986 18:316-320.
- Tulipan N, Huang S, Whetsell W, and Allen G: Neonatal striatal grafts prevent lethal syndrome produced by bilateral intrastriatal injection of kainic acid.
Brain Research 1986 377:163-167.
- Whelan H, Clanton J, Wilson R, and Tulipan N: Comparison of X-ray CT and magnetic resonance brain tumor imaging using an adult canine glioma model.
Pediatric Neurology 1988 4(5):279-83.
- Tulipan N, Whetsell W, Huang S, and Allen G: Long-term prevention of toxin-induced damage by neural grafts. In: Gash DM, Sladek JR, eds.
Progress in Brain Research. Amsterdam, Elsevier, 1988 78,1-5.
- Tulipan N, Luo S, Allen G, and Whetsell W: Striatal grafts provide sustained protection from kainic and quinolinic acid-induced damage.
Experimental Neurology 1988 102:325-332.
- Tulipan, NB: Brain transplants: A new approach to the therapy of neurodegenerative disease.
Neurologic Clinics 1988 6(2):405-419.
- Whetsell W, Allen, G, and Tulipan, N: Alteration of kainic acid quinolinic acid toxicity of neostriatal "transplants" in vitro.
Neuroscience Letters 1989 96:18-22.
- Johnson M, Tulipan N, Whetsell, Jr., W: Osteoblastic meningioma of the fourth ventricle.
Neurosurgery 1989 24:587-590.
- Allen GS, Burns RS, Tulipan NB, Parker RA: Adrenal medullary transplantation to caudate nucleus in Parkinson's disease: Initial clinical results in eighteen patients.
Archives of Neurology 1989 46:487-491.

Lanford GB, Tulipan NB: IV Ventriculostomy for Chiari malformation.
Journal of the Tennessee Medical Association 1989 82(9): 477-479.

Abram SR, Kruskal JB, Allen GS, Burns RS, Parker R, Tulipan, NB:
Alterations in prealbumin concentration after adrenal autotransplantation
for Parkinson's disease.
Experimental Neurology 1990 108:130-135.

Guttman M, Burns RS, Martin WR, Peppard RF, Adam MJ, Ruth TJ,
Allen GS, Parker RA, Tulipan NB, Calne DB: PET studies of parkinsonian
patients treated with autologous adrenal implants.
Canadian Journal of Neurological Sciences 1989 16(3):305-9.

Burns RS, Allen GS, and Tulipan, NB: Transplantation of adrenal medullary
tissue to brain in Parkinson's disease: further experience.
In: Koller WC, Paulson G, eds
Therapy of Parkinson's Disease New York and Basel, 1990 501-514.

Tulipan, N: Distal catheter lengthening (letter, comment) Comment on Journal of
Neurosurgery 77(5):810-1, November 1992,
Journal of Neurosurgery 1993 78(5):853-4.

Copeland ML, Bruner JP, Richards WO, Sundell HW, Tulipan NB: A model for in
utero endoscopic treatment of myelomeningocele.
Neurosurgery 1993 33:542-5.

Jennings MT, Slatkin N, D'Angelo M, Ketonen L, Johnson MD, Rosenblum M,
Creasy J, Tulipan NB, Walker R: Neoplastic meningitis as the presentation of
occult primitive neuroectodermal tumors.
Journal of Child Neurology 1993 8(4):306-12.

Borowsky AD, Stein SM, Tulipan NB, Dermody TS: Meningitis caused by mixed
anaerobic species complicating tethered cord syndrome (letter)
Clinical Infectious Diseases 1995 (3):706-7.

Bruner JP, Tulipan NE, Richards WO. Endoscopic coverage of fetal open
myelomeningocele in utero (letter; comment).
American Journal of Obstetrics & Gynecology 1997 176(1Pt1):256-7.

- Drewek MJ, Bruner JP, Whetsell WO, Tulipan N. Quantitative analysis of the toxicity of human amniotic fluid to cultured rat spinal cord, Pediatric Neurosurgery 1997 27:190-193.
- Tulipan N, Lavin P, Copeland M. Stereotactic ventriculoperitoneal shunting for idiopathic intracranial hypertension, Neurosurgery 1998 43(1):175-177.
- Tulipan N, Bruner JP. Myelomeningocele repair in utero: a report of three cases. Pediatric Neurosurgery 1998 28:177-180.
- Tulipan N, Hernanz-Schulman M, Bruner JP. Reduced hindbrain herniation after Intrauterine myelomeningocele repair, Pediatric Neurosurgery 1998 29:274-278.
- Bruner JP, Richards WO, Tulipan NB, Arney TL. Endoscopic coverage of fetal myelomeningocele in utero, American Journal of Obstetrics and Gynecology 1999 180:153-158.
- Tulipan N, Bruner JP. Fetal surgery for spina bifida (letter) Lancet 1999 353(9150):406.
- Bruner JP, Tulipan, N, Paschall RL, Boehm FH, Walsh WF, Silva SR, Reed GW. Fetal surgery for myelomeningocele and the incidence of shunt-dependent hydrocephalus, JAMA 1999 282:1819-1825.
- Bruner JP, Boehm, FH, Tulipan, N. The Tulipan-Bruner trocar for uterine entry during fetal surgery, SMFM Special Issue American Journal of Obstetrics and Gynecology 1999 181:1188-1191.
- Tulipan N, Hernanz-Schulman M, Lowe LH, Bruner, JP. Intrauterine myelomeningocele repair reverses preexisting hindbrain herniation, Pediatric Neurosurgery 1999 31:137-142.
- Tulipan N, Bruner JP, Walsh WF, Paschall RL, Boehm FH, Reed GW, Oakes J. Effect of intrauterine myelomeningocele repair on central nervous system structure and function,

Pediatric Neurosurgery 1999 31:183-188.

Holzbeierlein J, Pope JC IV, Adams MC, Bruner J, Tulipan N, Brock JW 3rd. The urodynamic profile of myelodysplasia in childhood with spinal closure during gestation.

J Urol 2000 Oct.;164(4):1336-9.

Bruner JP, Tulipan N, Richards WO, Walsh W, Boehm F, Vrabcak E. In utero repair of myelomeningocele: a comparison of endoscopy and hysterotomy, Fetal Diagnosis and Therapy 2000 15:83-88.

Mangels KJ, Tulipan N, Tsao LY, Alarcon J, Bruner JP. Fetal MRI in the evaluation of intrauterine myelomeningocele,

Pediatric Neurosurgery 2000 32(3):124-31.

Mangels KJ, Tulipan N, Bruner JP, Nickolaus D. Use of bipedicular advancement flaps for intrauterine closure of myeloschisis,

Pediatric Neurosurgery 2000 32(1): 52-6.

Bruner JP, Tulipan NB, Richards WO, Walsh WF, Boehm FH, Vrabcak EK. In utero repair of myelomeningocele: a comparison of endoscopy and hysterotomy.

Fetal Diagnosis & Therapy 2000 15(2):83-8.

Tulipan N and Bruner, JP: Intrauterine Myelomeningocele Repair. *In* Harrison, M J (ed.)

The Unborn Child, Third Edition, W.B.Saunders, Philadelphia, PA 2001 pp.453-466.

Larson, TC, Jennings MT, Tulipan, NB, Toms, SA, Johnson, MD. 6 month old boy with 2 week history of progressive lethargy

Brain Pathology 2001 11(2):265-6.

Hamdan AH, Walsh W, Heddings A, Bruner JP, Tulipan N. Gestational age at intrauterine myelomeningocele repair does not influence the risk of prematurity.

Fetal Diagnosis and Therapy 2002 17:66-68.

Aaronson OS, Tulipan NB, Cywes R, Sundell HW, Davis GH, Bruner JP, Richards WO. Robot-assisted intrauterine myelomeningocele repair: a feasibility study.

Pediatric Neurosurgery 2002 36(2):85-89.

Tulipan, N, Sutton, LN, Bruner, JP, Cohen, BM, Johnson, M, Adzick, NS.
The effect of intrauterine myelomeningocele repair on the incidence of
Shunt-dependent hydrocephalus.
Pediatric Neurosurgery 2003 38(1):27-33.

Tubbs, RS, Chambers, MR, Smyth, MD, Bartolucci, AA, Bruner, JP, Tulipan, N,
Oakes, WJ. Late gestational intrauterine myelomeningocele repair does not
improve lower extremity function.
Pediatric Neurosurgery 2003 38(3):128-132.

Tulipan N. Intrauterine myelomeningocele repair.
Clin Perinatol. 2003 Sep;30(3):521-30. Review.

Aaronson OS, Hernanz-Schulman M, Bruner JP, Reed GW, Tulipan NB.
Myelomeningocele: prenatal evaluation--comparison between
transabdominal US and MR imaging
Radiology. 2003 Jun;227(3):839-43.

Bruner, JP, Tulipan, N, Reed, G, Davis, GH, Bennett, K, Luker KS, Dabrowiak, ME.
Intrauterine repair of Spina Bifida: Preoperative Predictors of
shunt-dependent hydrocephalus
Am J Obstet Gynecol. 2004 May;190(5):1305-12.

Hamden AH, Walsh W, Bruner JP, Tulipan N. Intrauterine Myelomeningocele repair:
Effect On Short-Term complications of prematurity.
Fetal Diagn Ther 2004; 19(1): 83-86.

Tulipan N. Intrauterine closure of myelomeningocele: an update.
Neurosurg Focus. 2004 Feb 15;16(2)

Bruner JP, Tulipan N, Dabrowiak ME, Luker KS, Walters K, Burns P, Reed G.
Upper level of the spina bifida defect: how good are we?
Ultrasound Obstet Gynecol. 2004 Nov;24(6):612-7.

Bruner JP, Tulipan N. Tell the truth about spina bifida.
Ultrasound Obstet Gynecol. 2004 Nov;24(6):595-6.

**Bruner JP, Tulipan N. Intrauterine repair of spina bifida.
Clin Obstet Gynecol. 2005 Dec;48(4):942-55.**

**Tulipan N, Cleves M. The effect of double gloving on the incidence of CSF shunt infection.
J Neurosurg. 2006 Jan;104(1 Suppl):5-8.**

**Bruner JP, Davis G, Tulipan N. Intrauterine shunt for obstructive hydrocephalus – still not ready.
Fetal Diagn Ther. 2006 21(6):532-9.**

**Reig A, Stevenson B, Tulipan N. CT-Based, fiducial-free frameless stereotaxy for difficult ventriculoperitoneal shunt insertion: Experience in 26 consecutive patients.
Stereotact Funct Neurosurg. 2010 Jan 5;88(2):75-80.**

**Forbes J, Reig A, Tomycz L, Tulipan N. Intracranial hypertension caused by a depressed skull fracture resulting in superior sagittal sinus thrombosis in a pediatric patient: treatment with ventriculoperitoneal shunt insertion.
J Neurosurg Pediatr. 2010 Jul;6(1):23-8.**

**Adzick NS, Thom EA, Spong CY, Brock JW 3rd, Burrows PK, Johnson MP, Howell LJ, Farrell JA, Dabrowiak ME, Sutton LN, Gupta N, Tulipan NB, D'Alton ME, Farmer DL; MOMS Investigators. A randomized trial of prenatal versus postnatal repair of Myelomeningocele.
N Engl J Med. 2011 Mar 17;364(11):993-1004.**

**Abramo TJ, Zhou C, Estrada C, Drayna PC, Locklair MR, Miller R, Pearson MM, Tulipan NB, Arnold DH. Cerebral regional oxygen saturation monitoring in pediatric malfunctioning shunt patients.
Am J Emerg Med. 2012 Nov 12.**