Nelson Oyesiku

Expert in 3 Dimensional Endoscopic transsphenoidal pituitary surgery

Nelson M. Oyesiku, MD, PhD, FACS, who joined the Emory University Hospital faculty in 1993, is Professor of Neurological Surgery and Professor of Medicine (Endocrinology) and Program Director of the Neurosurgery Residency Program.

He occupies the Al Lerner Chair in Neurosurgery and is Vice-Chairman of the Department and Director of the Neurosurgical Residency Program. Dr. Oyesiku is also Director of the Laboratory of Molecular Neurosurgery and Biotechnology.

Specialty

Neurological Surgery (Board certified since 1998)

Areas of Expertise

Pituitary tumors

Brain Tumors

Stereotactic Radiosurgery

Groundbreaking Research and Clinical Trials

Dr. Oyesiku's clinical and research focus is the surgical treatment and molecular biology of pituitary tumors. Dr Oyesiku has performed more than 1.500 surgeries for pituitary tumors and is one of a few surgeons in the U.S. and worldwide (and the first in Georgia) utilizing advanced 3D endoscopic surgery for resection of pituitary tumors. This technology provides the surgeon with improved spatial resolution making surgery safer.

Dr. Oyesiku partners with Adriana Ioachimescu, MD, PhD, and a team of clinicians who collaborate in the diagnosis and treatment of patients with pituitary tumors at Emory's Pituitary /Neuroendocrine Center. The Emory Pituitary/NeuroendocrineCenter has a nationwide and worldwide referral base and provides patients with comprehensive and personalized medical and surgical management of pituitary disorders. Specialists in Endocrinology, Neurosurgery, Neuroradiology, Neurophthalmology, Radiation Oncology, and ENT collaborate to provide state-of-the-art as well as novel advances in care and translational research.

Dr. Oyesiku is also Director of the Laboratory of Molecular Neurosurgery and Biotechnology, which is

dedicated to unraveling pituitary tumorigenesis The Laboratory's Pituitary Tumor Bank and Database allows clinicians and researchers to provide patients with advanced molecular biological analysis of their tumors. The laboratory was the first to identify unique aspects of pituitary neuroendocrine tumor gene expression and was the first to discover a key molecular marker for nonfunctional pituitary tumors that has enhanced the understanding of these tumors. Dr. Oyesiku and his team of researchers also developed a new modality for imaging pituitary tumors. This molecular imaging diagnostic tool was pioneered and first utilized at Emory for patients with pituitary tumors. The molecular imaging allows doctors to identify a key tumor marker in patients with clinically non functional pituitary tumors noninvasively, thereby identifying potential patients for a new targeted chemotherapy. The research team is currently undertaking this potentially groundbreaking new drug therapy for nonfunctional tumors that could lead to the first drug therapy for clinically nonfunctional pituitary tumors. To date, there has been no medical therapy available for patients with clinically non functional tumors.

The Road to Emory: Education

Medical School: University of Ibadan School of Medicine, Ibadan, Nigeria 1979 Internship: General Hospital, Lagos, Nigeria, 1980 Masters of Science: University of London, UK, as a Commonwealth Scholar, 1982 Surgery Residency: University of Connecticut—General Surgery, Hartford, CT, 1987. Fellowships: University of Florida – Stereotactic Radiological Surgery, Jacksonville, Florida, 1998 Other: Emory University School of Medicine, PhD. Graduate School of Arts and Science, Atlanta, GA, 1996 He obtained his neurosurgical training at Emory University. During his residency he also completed a PhD degree in neuroscience at Emory University, studying the role of neurotrophic factors in neuronal survival and regeneration. Dr. Oyesiku was appointed to the neurosurgical faculty at Emory upon completion of his training.

Memberships

American College of Surgeons: Fellow; Board of Governors; Advisory Council for Neurosurgery American Board of Neurological Surgery American Academy of Neurological Surgery President, International Society of Pituitary Surgeons Congress of Neurological Surgeons: Past President CNS Joint Section of Neurotrauma/Critical Care: Executive Committee CNS Joint Section of Tumors: Executive Committee Federation for International Education in Neurosurgery: Board of Directors Georgia Neurosurgical Society: Past President, Secretary and Treasurer Society of Neurological Surgeons: Chairman, Match Committee World Federation of Neurosurgical Societies: CNS Delegate; Chair, Neuroendocrine Committee

Awards

Resident Award, American Academy of Neurological Surgery Young Investigator Award, Brain Trauma Award Augustus McCravey Resident Award, Southern Neurosurgical Society Dr. Oyesiku received an NIH CIDA Award and Medical Faculty Development Award from the Robert Wood Johnson Foundation. He is a recipient of an NIH RO1 award for the molecular imaging and targeting of pituitary tumors, and is PI of the R25 NIH training grant for Neurosurgery. In 2009, Dr. Oyesiku was named Editor-in-Chief of Neurosurgery, the official journal of the Congress of Neurological Surgeons (CNS). He is also an ad hoc reviewer for several peer-reviewed journals. He has been selected by his peers as one of The Best Doctors in America. He was selected by the Consumer Research Council of America as one of America's Top Surgeons. He is named in Marquis Who's Who in America

Major or Recent Publications

1: Patel KR, Burri SH, Asher AL, Crocker IR, Fraser RW, Zhang C, Chen Z, Kandula S, Zhong J, Press RH, Olson JJ, Oyesiku NM, Wait SD, Curran WJ, Shu HG, Prabhu RS. Comparing Preoperative With Postoperative Stereotactic Radiosurgery for Resectable Brain Metastases: A Multi-institutional Analysis. Neurosurgery. 2015 Nov 2. [Epub ahead of print] PubMed PMID: 26528673.

2: Amadio JP, Oyesiku NM. The role of neurosurgery journals in evidence-based neurosurgical care. Neurosurg Clin N Am. 2015 Apr;26(2):283-94, x. doi: 10.1016/j.nec.2014.11.001. Epub 2014 Nov 6. Review. PubMed PMID: 25771284.

3: Gephart MH, Derstine P, Oyesiku NM, Grady MS, Burchiel K, Batjer HH, Popp AJ, Barbaro NM. Resident away rotations allow adaptive neurosurgical training. Neurosurgery. 2015 Apr;76(4):421-5; discussion 425-6. doi: 10.1227/NEU.0000000000000661. PubMed PMID: 25635889.

4: Chu J, Wise SK, Patel ZM, Oyesiku NM. Endoscopic transsphenoidal pituitary surgery: transsphenoidal approach to the sella and sellar closure with septal flap: 3-dimensional operative video. Neurosurgery. 2014 Dec;10 Suppl 4:654; discussion 654. doi: 10.1227/NEU.0000000000000469. PubMed PMID: 25409331.

5: Chu J, Oyesiku NM. Endoscopic transsphenoidal pituitary surgery: pituitary microadenoma: 3-dimensional operative video. Neurosurgery. 2014 Dec;10 Suppl 4:660. doi: 10.1227/NEU.0000000000000536. PubMed PMID: 25406687.

6: Chu J, Oyesiku NM. Endoscopic transsphenoidal pituitary surgery: tuberculum sellae meningioma: 3-dimensional operative video. Neurosurgery. 2014 Dec;10 Suppl 4:659. doi: 10.1227/NEU.0000000000000535. PubMed PMID: 25406686.

7: Chu J, Oyesiku NM. Endoscopic transsphenoidal pituitary surgery: 4 unique cases of craniopharyngioma: 3-dimensional operative video. Neurosurgery. 2014 Dec;10 Suppl 4:657. doi: 10.1227/NEU.0000000000000527. PubMed PMID: 25167380.

8: Chu J, Oyesiku NM. Endoscopic transsphnoidal pituitary surgery: pituitary macroadenoma: 3-dimensional operative video. Neurosurgery. 2014 Dec;10 Suppl 4:658. doi: 10.1227/NEU.0000000000000534. PubMed PMID: 25160997.

9: Miller BA, Ioachimescu AG, Oyesiku NM. Contemporary indications for transsphenoidal pituitary surgery. World Neurosurg. 2014 Dec;82(6 Suppl):S147-51. doi: 10.1016/j.wneu.2014.07.037. Review. PubMed PMID: 25496626.

10: Press RH, Prabhu RS, Appin CL, Brat DJ, Shu HK, Hadjipanayis C, Olson JJ, Oyesiku NM, Curran WJ, Crocker I. Outcomes and patterns of failure for grade 2 meningioma treated with reduced-margin intensity modulated radiation therapy. Int J Radiat Oncol Biol Phys. 2014 Apr 1;88(5):1004-10. doi: 10.1016/j.ijrobp.2013.12.037. PubMed PMID: 24661652.

11: Oyesiku NM. Editorial: the impact of PhD training. J Neurosurg. 2014 Mar;120(3):727-8. doi: 10.3171/2013.8.JNS131489. Epub 2013 Dec 20. PubMed PMID: 24359006.

12: Shoja MM, Oyesiku NM. Clinical anatomy of the cranial nerves. Clin Anat. 2014 Jan;27(1):2-3. doi: 10.1002/ca.22365. PubMed PMID: 24343774.

13: Shoja MM, Oyesiku NM, Shokouhi G, Griessenauer CJ, Chern JJ, Rizk EB, Loukas M, Miller JH, Tubbs

RS. A comprehensive review with potential significance during skull base and neck operations, Part II: glossopharyngeal, vagus, accessory, and hypoglossal nerves and cervical spinal nerves 1-4. Clin Anat. 2014 Jan;27(1):131-44. doi: 10.1002/ca.22342. Epub 2013 Nov 22. Review. PubMed PMID: 24272888.

14: Shoja MM, Oyesiku NM, Griessenauer CJ, Radcliff V, Loukas M, Chern JJ, Benninger B, Rozzelle CJ, Shokouhi G, Tubbs RS. Anastomoses between lower cranial and upper cervical nerves: a comprehensive review with potential significance during skull base and neck operations, part I: trigeminal, facial, and vestibulocochlear nerves. Clin Anat. 2014 Jan;27(1):118-30. doi: 10.1002/ca.22340. Epub 2013 Nov 22. Review. PubMed PMID: 24272859.

15: McLaughlin N, Laws ER, Oyesiku NM, Katznelson L, Kelly DF. In reply. Neurosurgery. 2014 Jan;74(1):E143-4. doi: 10.1227/NEU.0000000000000160. PubMed PMID: 24030177.

16: Oyesiku NM. Neurosurgery® launches High Impact Manuscript Services (HIMS) program. Neurosurgery. 2013 Nov;73(5):743-5. doi: 10.1227/NEU.0000000000000166. PubMed PMID: 24141396.

17: McLaughlin N, Laws ER, Oyesiku NM, Katznelson L, Kelly DF. In reply. Neurosurgery. 2013 Sep;73(3):E557-8. doi: 10.1227/NEU.0000000000000020. PubMed PMID: 23756738.

18: Oyesiku NM. Operative neurosurgery: a new beginning. Neurosurgery. 2013 Jul;73(1):1. doi: 10.1227/01.neu.0000431071.00449.8a. PubMed PMID: 23778123.

19: Laury AM, Oyesiku NM, Hadjipanayis CG, Delgaudio JM, Wise SK. Incidental sinonasal findings identified during preoperative evaluation for endoscopic transsphenoidal approaches. Am J Rhinol Allergy. 2013 May-Jun;27(3):202-5. doi: 10.2500/ajra.2013.27.3871. PubMed PMID: 23710956; PubMed Central PMCID: PMC3649855.

20: McLaughlin N, Laws ER, Oyesiku NM, Katznelson L, Kelly DF. Pituitary centers of excellence. Neurosurgery. 2012 Nov;71(5):916-24; discussion 924-6. doi: 10.1227/NEU.0b013e31826d5d06. Review. PubMed PMID: 22902334.

21: Miller BA, Rutledge WC, Ioachimescu AG, Oyesiku NM. Management of large aggressive nonfunctional pituitary tumors: experimental medical options when surgery and radiation fail. Neurosurg Clin N Am. 2012 Oct;23(4):587-94. doi: 10.1016/j.nec.2012.06.013. PubMed PMID: 23040745.

22: Ioachimescu AG, Eiland L, Chhabra VS, Mastrogianakis GM, Schniederjan MJ, Brat D, Pileggi AV, Oyesiku NM. Silent corticotroph adenomas: Emory University cohort and comparison with ACTH-negative nonfunctioning pituitary neuroendocrine tumors. Neurosurgery. 2012 Aug;71(2):296-303; discussion 304. doi: 10.1227/NEU.0b013e318257c1f0. PubMed PMID: 22517250.

23: Oyesiku NM, Post KD. Rathke cleft cysts. Neurosurg Focus. 2011 Jul;31(1):Introduction. doi: 10.3171/2011.5.FOCUS11116. PubMed PMID: 21721870.

24: Macrae DA, Oyesiku NM. The registrar. Neurosurgery. 2011 Apr;68(4):851-3. doi: 10.1227/NEU.0b013e318214ccd3. PubMed PMID: 21792105.

25: Muh CR, Boulis NM, Chandler WF, Barkan AL, Mosunjac MB, Oyesiku NM. Clinical problem solving: monster on the hook–case problems in neurosurgery. Neurosurgery. 2011 Mar;68(3):E874-82. doi: 10.1227/NEU.0b013e318207ac0b. Review. PubMed PMID: 21311284.

26: Oyesiku NM. The registrar. Neurosurgery. 2010 Nov;67(5):1165-6. doi:

10.1227/NEU.0b013e3181fd6d47. PubMed PMID: 20948397.

27: Dhabaan A, Elder E, Schreibmann E, Crocker I, Curran WJ, Oyesiku NM, Shu HK, Fox T. Dosimetric performance of the new high-definition multileaf collimator for intracranial stereotactic radiosurgery. J Appl Clin Med Phys. 2010 Jun 21;11(3):3040. PubMed PMID: 20717077.

28: Oyesiku NM. Measuring excellence in neurosurgical competence and certification. Clin Neurosurg. 2010;57:91-3. PubMed PMID: 21280499.

29: Yao C, Evans CO, Stevens VL, Owens TR, Oyesiku NM. Folate receptor alpha regulates cell proliferation in mouse gonadotroph alphaT3-1 cells. Exp Cell Res. 2009 Nov 1;315(18):3125-32. doi: 10.1016/j.yexcr.2009.05.006. Epub 2009 May 14. PubMed PMID: 19446551.

30: Evans CO, Moreno CS, Zhan X, McCabe MT, Vertino PM, Desiderio DM, Oyesiku NM. Molecular pathogenesis of human prolactinomas identified by gene expression profiling, RT-qPCR, and proteomic analyses. Pituitary. 2008;11(3):231-45. doi: 10.1007/s11102-007-0082-2. PubMed PMID: 18183490.

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32: Oyesiku NM. Stereotactic radiosurgery for Cushing disease: a review. Neurosurg Focus. 2007;23(6):E14. Review. PubMed PMID: 18081479.

33: Oyesiku NM. 2005 Congress of Neurological Surgeons Presidential Address. Homogeneity and heterogeneity: lessons from nature and society. Clin Neurosurg. 2006;53:1-9. PubMed PMID: 17380733.

34: Oyesiku NM. Multimodality treatment of pituitary neuroendocrine tumors. Clin Neurosurg. 2005;52:234-42. PubMed PMID: 16626076.

35: Scarbrough TJ, Crocker IR, Davis LW, Barrow DL, Fowler BZ, Oyesiku NM. Intracranial arteriovenous malformations treated utilizing a linear accelerator-based patient rotator or commercially available radiosurgery system. Stereotact Funct Neurosurg. 2005;83(2-3):91-100. Epub 2005 Jul 19. PubMed PMID: 16037682.

36: Evans CO, Reddy P, Brat DJ, O'Neill EB, Craige B, Stevens VL, Oyesiku NM. Differential expression of folate receptor in pituitary neuroendocrine tumors. Cancer Res. 2003 Jul 15;63(14):4218-24. PubMed PMID: 12874029.

37: Alleyne CH Jr, Barrow DL, Oyesiku NM. Combined transsphenoidal and pterional craniotomy approach to giant pituitary tumors. Surg Neurol. 2002 Jun;57(6):380-90; discussion 390. PubMed PMID: 12176196.

38: Hadley MN, Walters BC, Grabb PA, Oyesiku NM, Przybylski GJ, Resnick DK, Ryken TC, Mielke DH. Guidelines for the management of acute cervical spine and spinal cord injuries. Clin Neurosurg. 2002;49:407-98. Review. PubMed PMID: 12506565.

39: Evans CO, Young AN, Brown MR, Brat DJ, Parks JS, Neish AS, Oyesiku NM. Novel patterns of gene expression in pituitary neuroendocrine tumors identified by complementary deoxyribonucleic acid microarrays and quantitative reverse transcription-polymerase chain reaction. J Clin Endocrinol Metab. 2001 Jul;86(7):3097-107. PubMed PMID: 11443173.

40: Evans CO, Brown MR, Parks JS, Oyesiku NM. Screening for MEN1 tumor suppressor gene mutations in sporadic pituitary tumors. J Endocrinol Invest. 2000 May;23(5):304-9. PubMed PMID: 10882148.

41: Oyesiku NM, Evans CO, Houston S, Darrell RS, Smith JS, Fulop ZL, Dixon CE, Stein DG. Regional changes in the expression of neurotrophic factors and their receptors following acute traumatic brain injury in the adult rat brain. Brain Res. 1999 Jul 3;833(2):161-72. PubMed PMID: 10375691.

42: Oyesiku NM, Evans CO, Brown MR, Blevins LS, Tindall GT, Parks JS. Pituitary adenomas: screening for G alpha q mutations. J Clin Endocrinol Metab. 1997 Dec;82(12):4184-8. PubMed PMID: 9398737.

43: Oyesiku NM, Wilcox JN, Wigston DJ. Changes in expression of ciliary neurotrophic factor (CNTF) and CNTF-receptor alpha after spinal cord injury. J Neurobiol. 1997 Mar;32(3):251-61. PubMed PMID: 9058319.

44: Oyesiku NM, Wigston DJ. Ciliary neurotrophic factor stimulates neurite outgrowth from spinal cord neurons. J Comp Neurol. 1996 Jan 1;364(1):68-77. PubMed PMID: 8789276.

45: Oyesiku NM, Colohan AR, Barrow DL, Reisner A. Cocaine-induced aneurysmal rupture: an emergent negative factor in the natural history of intracranial aneurysms? Neurosurgery. 1993 Apr;32(4):518-25; discussion 525-6. Review. PubMed PMID: 8474641.

46: Tindall GT, Oyesiku NM, Watts NB, Clark RV, Christy JH, Adams DA. Transsphenoidal adenomectomy for growth hormone-secreting pituitary neuroendocrine tumors in acromegaly: outcome analysis and determinants of failure. J Neurosurg. 1993 Feb;78(2):205-15. PubMed PMID: 8421204.