


CURRICULUM VITAE  
The Johns Hopkins University School of Medicine



Yuri Agrawal, MD MPH

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DEMOGRAPHIC AND PERSONAL INFORMATION

Current Appointments

University

2019-present Professor, Department of Otolaryngology-Head and Neck Surgery, Johns Hopkins University School of Medicine

Hospital

2012-present Attending Physician, Johns Hopkins Hospital

Personal Data

Division of Otolaryngology, Neurotology and Skull Base Surgery  
Department of Otolaryngology-Head and Neck Surgery  
601 N. Caroline Street  
Baltimore, MD 21287

Tel 410-502-3107 (Clinical)  
410-614-5902 (Research)

Fax 410-955-0035

Email yagrawal@jhmi.edu

Education and Training

Undergraduate

2000 B.A. Biology, Harvard University, Cambridge, MA; graduated magna cum laude with highest distinction

Doctoral/graduate

2005 M.D., Yale University School of Medicine, New Haven, CT

Postdoctoral

2005-2006 Intern, General Surgery, Johns Hopkins Hospital, Baltimore, MD

2006-2010 Resident, Otolaryngology-Head and Neck Surgery, Johns Hopkins Hospital, Baltimore, MD

2010-2012 Fellowship, Otolaryngology, Neurotology, Skull Base Surgery, Johns Hopkins Hospital, Baltimore, MD

2013-2015 Masters of Public Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

Professional Experience

2012-2016 Assistant Professor, Department of Otolaryngology-Head and Neck Surgery, Johns Hopkins University School of Medicine

2016-2019 Associate Professor, Department of Otolaryngology-Head and Neck Surgery, Johns Hopkins University School of Medicine

2019-present Professor, Department of Otolaryngology-Head and Neck Surgery, Johns Hopkins University School of Medicine

PUBLICATIONS

Original Research [OR]

1. Cirillo DJ, **Agrawal Y**, Cassano PA. Lipids and pulmonary function in the Third National Health and Nutrition Examination Survey. *Am J Epidemiol.* May 1 2002;155(9):842-848. *I performed data analysis and participated in manuscript writing.*
2. **Agrawal Y**, Platz EA, Niparko JK. Prevalence of hearing loss and differences by demographic characteristics among US adults: data from the National Health and Nutrition Examination Survey, 1999-2004. *Arch Intern Med.* Jul 28 2008;168(14):1522-1530.
3. **Agrawal Y**, Koch WM, Xiao W, Westra WH, Trivett AL, Symer DE, Gillison ML. Oral HPV infection before and after treatment for HPV 16-positive and HPV 16-negative head and neck squamous cell carcinoma. *Clin Cancer Res.* Nov 1 2008;14(21):7143-7150.
4. **Agrawal Y**, Platz EA, Niparko JK. Risk factors for hearing loss in US adults: data from the National Health and Nutrition Examination Survey, 1999 to 2002. *Otol Neurotol.* Feb 2009;30(2):139-145.
5. D'Souza G, **Agrawal Y**, Halpern J, Bodison S, Gillison ML. Oral sexual behaviors associated with prevalent oral human papillomavirus infection. *J Infect Dis.* May 1 2009;199(9):1263-1269. *I designed the study and performed data analysis.*
6. **Agrawal Y**, Carey JP, Della Santina CC, Schubert MC, Minor LB. Disorders of balance and vestibular function in US adults: data from the National Health and Nutrition Examination Survey, 2001-2004. *Arch Intern Med.* May 25 2009;169(10):938-944.
7. **Agrawal Y**, Migliaccio AA, Minor LB, Carey JP. Vestibular hypofunction in the initial postoperative period after surgical treatment of superior semicircular canal dehiscence. *Otol Neurotol.* Jun 2009;30(4):502-506.
8. **Agrawal Y**, Niparko JK, Dobie RA. Estimating the effect of occupational noise exposure on hearing thresholds: the importance of adjusting for confounding variables. *Ear Hear.* April 2010;31(2):234-7.
9. Dobie RA, **Agrawal Y**. The Annex C Fallacy: why unscreened databases are usually preferable for comparison to industrially-exposed groups. *Audiol Neurotol.* May 29 2010;16(1):29-35.
10. **Agrawal Y**, Clark JH, Limb CJ, Niparko JK, Francis HW. Predictors of vestibular schwannoma growth and clinical implications. *Otol Neurotol.* Jul 2010;31(5):807-12.
11. **Agrawal Y**, Minor LB. Physiologic effects on the vestibular system in Meniere's disease. *Otolaryngol Clin N Am.* Oct 2010;43(5):985-93.
12. **Agrawal Y**, Carey JP, Della Santina CC, Schubert MC, Minor LB. Diabetes, vestibular dysfunction, and falls: data from the National Health and Nutrition Examination Survey, 2001-2004. *Otol Neurotol.* Dec 2010;31(9):1445-50.
13. **Agrawal Y**, Carey JP, Hoffman HJ, Sklare DA, Schubert MC. The modified Romberg balance test: normative data in US adults. *Otol Neurotol.* Oct 2011;32(8):1309-11.
14. Starmer HM, Best SR, **Agrawal Y**, Chien WW, Hillel AT, Francis HW, Tamargo RJ, Akst LM. Prevalence, characteristics, and management of swallowing disorders following cerebellopontine angle surgery. *Otolaryngol Head Neck Surg.* 2011 Nov 18. *I performed data analysis in this study.*
15. **Agrawal Y**, Minor LB, Schubert MC, Janky K, Davalos-Bichara M, Carey JP. Second side surgery for superior canal dehiscence syndrome. *Otol Neurotol.* 2012 Jan;33(1):72-7.
16. Best SR, Starmer HM, **Agrawal Y**, Chien WW, Hillel AT, Francis HW, Tamargo RJ, Akst LM. Risk Factors for Vagal Palsy following Cerebellopontine Angle Surgery. *Otolaryngol Head Neck Surg.* 2012 Mar 23. *I participated in study design and manuscript writing.*
17. **Agrawal Y**, Zuniga MG, Davalos-Bichara M, Schubert MC, Walston JD, Hughes J, Carey JP. Decline in semicircular canal and otolith function with age. *Otol Neurotol.* 2012 Jul;33(5):832-9.
18. Lin BM, Aygun N, **Agrawal Y**. Cystic Lesions of the Petrous Apex: Identification Based on Magnetic Resonance Imaging Characteristics. *Otol Neurotol.* 2012 Jul 13.
19. Davalos-Bichara M, Schubert MC, Walston JD, Hughes J, Carey JP, Zackowski KM, Zee DS, **Agrawal Y**. Development and validation of a falls grading scale. *J Geriatric Phys Ther.* 2012. July 17.
20. Ward BK, **Agrawal Y**, Nguyen E, Della Santina CC, Limb CJ, Francis HW, Minor LB, Carey JP. Hearing outcomes after surgical plugging of the superior semicircular canal by a middle cranial fossa approach. *Otol Neurotol.* 2012 Oct;33(8):1386-91. *I participated in data analysis and manuscript writing.*
21. Harun A, **Agrawal Y**, Tan M, Niparko JK, Francis HW. Sex and Age Associations with Vestibular Schwannoma Size and Presenting Symptoms. *Otol Neurotol.* 2012 Sep 19. *I participated in study design and manuscript writing.*
22. Zuniga MG, Davalos-Bichara M, Schubert MC, Walston JD, King WM, Carey JP, **Agrawal Y**. Association between hearing loss and saccular dysfunction in older individuals. *Otol Neurotol.* 2012 Oct 11.

23. **Agrawal Y**, Bremova T, Kremmyda O, Strupp M. Semicircular canal, saccular and utricular function in patients with bilateral vestibulopathy: analysis based on etiology. *Journal of Neurology*. 2012 Oct 27.
24. Shao C, Tan M, Bishop JA, Liu J, Bai W, Gaykalova DA, Ogawa T, Vikani AR, **Agrawal Y**, Li RJ, Kim MS, Westra WH, Sidransky D, Califano JA, Ha PK. Suprabasin is hypomethylated and associated with metastasis in salivary adenoid cystic carcinoma. *PLoS One*. 2012;7(11):e48582. *I performed the survival analysis in this study.*
25. **Agrawal Y**, Ward BK, Minor LB. Vestibular dysfunction: Prevalence, impact and need for targeted treatment. *J Vestib Res*. 2013 Jan 1;23(3):113-7.
26. Willis JR, Vitale SE, **Agrawal Y**, Ramulu PY. Visual Impairment, Uncorrected Refractive Error, and Objectively Measured Balance in the United States. *JAMA Ophthalmol*. 2013 Jun 6:1-7. *I participated in data interpretation and manuscript writing.*
27. Ward BK, **Agrawal Y**, Hoffman HJ, Carey JP, Della Santina CC. Prevalence and Impact of Bilateral Vestibular Hypofunction: Results From the 2008 US National Health Interview Survey. *JAMA Otolaryngol Head Neck Surg*. 2013 Aug 1;139(8):803-10. *I participated in study design and data analysis.*
28. **Agrawal Y**, Davalos-Bichara M, Zuniga MG, Carey JP. Head Impulse Test Abnormalities and Influence on Gait Speed and Falls in Older Individuals. *Otol Neurotol*. 2013 Aug 6.
29. Mantokoudis G, Schubert MC, Saber Tehrani AS, Wong AL, **Agrawal Y**. Early Adaptation and Compensation of Clinical Vestibular Responses After Unilateral Vestibular Deafferentation Surgery. *Otol Neurotol*. 2013 Aug 20.
30. **Agrawal Y**, Schubert MC, Migliaccio AA, Zee DS, Schneider E, Lehnen N, Carey JP. Evaluation of Quantitative Head Impulse Testing Using Search Coils vs. Video-oculography in Older Individuals. *Otol Neurotol*. 2013 Sep 27.
31. **Agrawal Y**, Bremova T, Kremmyda O, Strupp M, MacNeilage PM. Clinical Testing of Otolith Function: Perceptual Thresholds and Myogenic Potentials. *JARO*. 2013 Sept 27.
32. Davalos-Bichara M, **Agrawal Y**. Normative Results of Healthy Older Adults on Standard Clinical Vestibular Tests. *Otol Neurotol*. 2013 Oct 16.
33. Bremova T, Bayer O, **Agrawal Y**, Kremmyda O, Brandt T, Teufel J, Strupp M. Ocular VEMPs indicate repositioning of otoconia to the utricle after successful liberatory maneuvers in benign paroxysmal positioning vertigo. *Acta Otolaryngol*. 2013 Dec;133(12):1297-303. *I participated in study design and data analysis.*
34. Sun D, Davalos-Bichara M, Zuniga MG, Carey JP, **Agrawal Y**. Evaluation of a bedside test of utricular function – the bucket test – in older individuals. *Acta Otolaryngol*. 2014 Apr;134(4):382-9.
35. Li C, Zuniga MG, Nguyen KD, Carey JP, **Agrawal Y**. How to Interpret Latencies of Cervical and Ocular Vestibular-Evoked Myogenic Potentials: Our Experience in Fifty-Three Participants. *Clinical Otolaryngology* 39, no. 5 (2014): 297-301.
36. Davalos-Bichara M, Zuniga MG, **Agrawal Y**, Carey JP, Schubert MC. Forward and backward locomotion in individuals with dizziness. *Gait Posture*. 2014 Sep;40(4):499-503. *I assisted with obtaining funding for this study.*
37. Hillel AT, Pandian V, Mark LJ, Clark J, Miller CR, Haut ER, Cover R, Berkow LC, **Agrawal Y**, Bhatti N. A novel role for otolaryngologists in the multidisciplinary difficult airway response team. *Laryngoscope*. 2014 Sep 24. *I participated in data analysis.*
38. Li C, Layman AJ, Geary R, Anson E, Carey JP, Ferrucci L, **Agrawal Y**. Epidemiology of Vestibulo-Ocular Reflex Function: Data from the Baltimore Longitudinal Study of Aging. *Otol Neurotol*. 2014 Oct 1.
39. Schubert MC, Mantokoudis G, Xie L, **Agrawal Y**. Acute VOR gain differences for outward vs. inward head impulses. *J Vestib Res*. 2014 Jan 1;24(5):397-402.
40. Layman AJ, Li C, Simonsick E, Ferrucci L, Carey JP, **Agrawal Y**. Association Between Saccular Function and Gait Speed: Data From the Baltimore Longitudinal Study of Aging. *Otol Neurotol*. 2015 Jan 7.
41. Li C, Layman AJ, Carey JP, **Agrawal Y**. Epidemiology of vestibular evoked myogenic potentials: Data from the Baltimore Longitudinal Study of Aging. *Clin Neurophysiol*. 2015 Jan 24.
42. Harun A, **Agrawal Y**. The Use of Fall Risk Increasing Drugs (FRIDs) in Patients with Dizziness Presenting to a Neurotology Clinic. *Otol Neurotol*. 2015 Mar 30.
43. Ward BK, Wenzel A, Kalyani RR, **Agrawal Y**, Feng AL, Polydefkis M, Ying HS, Schubert MC, Zuniga MG, Della Santina CC, Carey JP. Characterization of Vestibulopathy in Individuals with Type 2 Diabetes Mellitus. *Otolaryngol Head Neck Surg*. 2015 Mar 31. *I assisted with obtaining funding for this study.*
44. Bigelow RT, Semenov YR, du Lac S, Hoffman HJ, **Agrawal Y**. Vestibular vertigo and comorbid cognitive and psychiatric impairment: the 2008 National Health Interview Survey. *J Neurol Neurosurg Psychiatry*. 2015 Apr 17.

45. Mantokoudis G, **Agrawal Y**, Newman-Toker DE, Xie L, Saber Tehrani AS, Wong A, Schubert MC. Compensatory saccades benefit from prediction during head impulse testing in early recovery from vestibular deafferentation. *Eur Arch Otorhinolaryngol*. 2015 Jun 19. *I participated in manuscript writing*.
46. Semenov YR, Bigelow RT, Xue, QL, du Lac S, **Agrawal Y**. Association between vestibular and cognitive function in US adults: data from the National Health and Nutrition Examination Survey. *J Gerontol A Biol Sci Med Sci*. 2016 Feb;71(2):243-250.
47. Bigelow RT, Semenov YR, Trevino C, Ferrucci L, Resnick SM, Simonsick EM, Xue QL, **Agrawal Y**. Association between visuospatial ability and vestibular function in the Baltimore Longitudinal Study of Aging. *J Am Geriatr Soc*. 2015. Sept;63(9):1837-44.
48. Gadkaree SK, Sun DQ, Huang J, Varadhan R, **Agrawal Y**. Comparison of simple vs. performance-based fall prediction models: data from the National Health and Aging Trends Study. *Gerontol Geriatr Med*. 2015. Jan-Dec;1.
49. Harun A, Semenov YR, **Agrawal Y**. Vestibular Function and Activities of Daily Living: Analysis of the 1999 to 2004 National Health and Nutrition Examination Surveys. *Gerontol Geriatr Med*. 2015 Jan-Dec;1.
50. Sun DQ, Huang J, Varadhan R, **Agrawal Y**. Race and fall risk: data from the National Health and Aging Trends Study (NHATS). *Age Ageing*. 2016 Jan;45(1):120-7.
51. Harun A, Li C, Bridges JF, **Agrawal Y**. Understanding the Experience of Age-Related Vestibular Loss in Older Individuals: A Qualitative Study. *Patient*. 2016 Jan 6.
52. Erbele ID, Lin FR, **Agrawal Y**, Francis HW, Carey JP, Chien WW. Racial Differences of Pigmentation in the Human Vestibular Organs. *Otolaryngol Head Neck Surg*. 2016 May 10. *I participated in data interpretation and manuscript writing*.
53. Harun A, Oh ES, Bigelow R, **Agrawal Y**. Vestibular Function Testing in Individuals with Cognitive Impairment: Our Experience with Sixty Participants. *Clinical Otolaryngology*. 2016 Jun 1.
54. Xie YJ, Liu EY, Anson ER, **Agrawal Y**. Age-Related Imbalance Is Associated With Slower Walking Speed: An Analysis From the National Health and Nutrition Examination Survey. *J Geriatr Phys Ther*. 2016 Jun 23.
55. Anson ER, Bigelow RT, Carey JP, Xue QL, Studenski S, Schubert MC, **Agrawal Y**. VOR Gain Is Related to Compensatory Saccades in Healthy Older Adults. *Front Aging Neurosci*. 2016 Jun 24;8:150.
56. Bigelow RT, Semenov YR, Anson E, du Lac S, Ferrucci L, **Agrawal Y**. Impaired Vestibular Function and Low Bone Mineral Density: Data from the Baltimore Longitudinal Study of Aging. *J Assoc Res Otolaryngol*. 2016 Jul 22.
57. Anson ER, Bigelow RT, Carey JP, Xue QL, Studenski S, Schubert MC, Weber KP, **Agrawal Y**. Aging Increases Compensatory Saccade Amplitude in the Video Head Impulse Test. *Front Neurol*. 2016 Jul 18;7:113.
58. Harun A, Oh ES, Bigelow RT, Studenski S, **Agrawal Y**. Vestibular Impairment in Dementia. *Otol Neurotol*. 2016 Sep;37(8):1137-42.
59. Mantokoudis G, Saber Tehrani AS, Wong AL, **Agrawal Y**, Wenzel A, Carey JP. Adaptation and Compensation of Vestibular Responses Following Superior Canal Dehiscence Surgery. *Otol Neurotol*. 2016 Aug 24. *I participated in manuscript writing*.
60. Patel MA, Mener DJ, Garcia-Esquinas E, Navas-Acien A, **Agrawal Y**, Lin SY. Tobacco Smoke Exposure and Eustachian Tube Disorders in Us Children and Adolescents. *PLoS One* 11, no. 10 (2016): e0163926. *I assisted with analysis of the tympanometry data*.
61. Gadkaree SK, Sun DQ, Li C, Lin FR, Ferrucci L, Simonsick EM, **Agrawal Y**. Does Sensory Function Decline Independently or Concomitantly with Age? Data from the Baltimore Longitudinal Study of Aging. *Journal of aging research* 2016 (2016).
62. Xie Y, Anson ER, Simonsick EM, Studenski SA, **Agrawal Y**. Compensatory Saccades Are Associated With Physical Performance in Older Adults: Data From the Baltimore Longitudinal Study of Aging. *Otology & Neurotology*. 2017;38(3):373-378.
63. Albathi M, **Agrawal Y**. Vestibular vertigo is associated with abnormal sleep duration. *Journal of Vestibular Research*. 2017;27(2-3):127-135.
64. Xie Y, Bigelow RT, Frankenthaler SF, Studenski SA, Moffat SD, **Agrawal Y**. Vestibular loss in Older adults is associated with impaired spatial navigation: Data from the Triangle completion Task. *Frontiers in neurology*. 2017;8.
65. Anson E, Bigelow RT, Swenor B, Deshpande N, Studenski S, Jeka JJ, **Agrawal Y**. Loss of Peripheral Sensory Function Explains Much of the Increase in Postural Sway in Healthy Older Adults. *Front Aging Neurosci*. 2017 Jun 20;9:202.

66. Wei EX, **Agrawal Y**. Vestibular Dysfunction and Difficulty with Driving: Data from the 2001-2004 National Health and Nutrition Examination Surveys. *Front Neurol*. 2017 Oct 17;8:557.
67. Wei EX, Oh ES, Harun A, Ehrenburg M, **Agrawal Y**. Vestibular Loss Predicts Poorer Spatial Cognition in Patients with Alzheimer's Disease. *J Alzheimers Dis*. 2018;61(3):995-1003.
68. Wei EX, Oh ES, Harun A, Ehrenburg M, **Agrawal Y**. Saccular Impairment in Alzheimer's Disease Is Associated with Driving Difficulty. *Dement Geriatr Cogn Disord*. 2018 Jan 26;44(5-6):294-302.
69. **Agrawal Y**, Pineault KG, Semenov YR. Health-related quality of life and economic burden of vestibular loss in older adults. *Laryngoscope Investig Otolaryngol*. 2017 Dec 15;3(1):8-15.
70. Wei EX, **Agrawal Y**. Association Between Vestibular Vertigo and Motor Vehicle Accidents: Data From the 2016 National Health Interview Survey. *Ear Hear*. 2018 May 18.
71. Kamil RJ, Bakar D, Ehrenburg M, Frankenthaler S, Wei EX, Anson E, Oh ES, **Agrawal Y**. "Text It" Program to Track Falls in Patients with Alzheimer's Disease and Dementia. *Alzheimers Dement (N Y)*. 2018 Apr 7;4:137-140.
72. Anson E, Bigelow RT, Studenski S, Deshpande N, **Agrawal Y**. Failure on the Foam Eyes Closed Test of Standing Balance Associated With Reduced Semicircular Canal Function in Healthy Older Adults. *Ear Hear*. 2018 Jun 11.
73. Kamil RJ, Jacob AJ, Ratnanather JT, Resnick SM, **Agrawal Y**. Vestibular Function and Hippocampal Volume in the Baltimore Longitudinal Study of Aging (BLSA). *Otol Neurotol*. 2018 Jul;39(6):765-771.
74. Kamil RJ, Giddings N, Hoffer M, Ying YM, Kwartler J, Brookler K, Arriaga M, **Agrawal Y**. Electronic Health Record Use Among American Neurotology Society Members. *Otol Neurotol*. 2018 Aug 13.
75. Rizk H, **Agrawal Y**, Barthel S, Bennett ML, Doherty JK, Gerend P, Gold DR, Morrill D, Oas JG, Roberts JK, Woodson E, Zapala DA, Bennett A, Shenoy AM. Quality improvement in neurology: Neuro-otology quality measurement set. *Neurology*. 2018 Oct 9;91(15):697-701. *I participated in study design and writing of the manuscript.*
76. Rizk H, **Agrawal Y**, Barthel S, Bennett ML, Doherty JK, Gerend P, Gold DR, Morrill D, Oas JG, Roberts JK, Woodson E, Zapala DA, Bennett A, Shenoy AM. Quality Improvement in Neurology: Neurotology Quality Measurement Set. *Otolaryngol Head Neck Surg*. 2018 Oct;159(4):603-607. *I participated in study design and writing of the manuscript.*
77. Kamil RJ, Bilgel M, Wong DF, Resnick SM, **Agrawal Y**. Vestibular Function and Beta-Amyloid Deposition in the Baltimore Longitudinal Study of Aging. *Front Aging Neurosci*. 2018 Dec 11;10:408.
78. Klatt BN, Ries JD, Dunlap PM, Whitney SL, **Agrawal Y**. Vestibular Physical Therapy in Individuals With Cognitive Impairment: A Theoretical Framework. *J Neurol Phys Ther*. 2019 Apr;43 Suppl 2 Supplement, Special Supplement: International Conference on Vestibular Rehabilitation:S14-S19.
79. Weinreich HM, Khayat S, Hertzano RP, Briggs SE, **Agrawal Y**. The Women in Neurotology (WIN)-A Cross-sectional Survey. *Otol Neurotol*. 2019 Jun;40(5):557-558.
80. Ganz DA, Siu AL, Magaziner J, Latham NK, Trivison TG, Lorenze NP, Lu C, Wang R, Greene EJ, Stowe CL, Harvin LN, Araujo KLB, Gurwitz JH, **Agrawal Y**, Correa-De-Araujo R, Peduzzi P, Gill TM; STRIDE Investigators. Protocol for serious fall injury adjudication in the Strategies to Reduce Injuries and Develop Confidence in Elders (STRIDE) study. *Inj Epidemiol*. 2019 Apr 15;6:14. *I participated in study design and writing of the manuscript.*
81. **Agrawal Y**, Van de Berg R, Wuyts F, Walther L, Magnusson M, Oh E, Sharpe M, Strupp M. Presbyvestibulopathy: Diagnostic criteria Consensus document of the classification committee of the Bárány Society. *J Vestib Res*. 2019 Jul 12.
82. Wei EX, Oh ES, Harun A, Ehrenburg M, Xue QL, Simonsick E, **Agrawal Y**. Increased prevalence of vestibular loss in mild cognitive impairment and Alzheimer's disease. *Curr Alzheimer Res*. 2019 Aug 16.
83. Bigelow RT, Semenov YR, Hoffman HJ, Agrawal Y. Association between vertigo, cognitive and psychiatric conditions in US children: 2012 National Health Interview Survey. *Int J Pediatr Otorhinolaryngol*. 2020 Mar;130:109802.
84. Pineault K, Pearson D, Wei E, Kamil R, Klatt B, **Agrawal Y**. Association Between Sacculae and Semicircular Canal Impairments and Cognitive Performance Among Vestibular Patients. *Ear Hear*. 2020 May/June;41(3):686-692.

85. Gandhi P, Klatt BN, **Agrawal Y**. Physical and Vestibular Physical Therapy Referrals in People With Alzheimer Disease. *Alzheimer Dis Assoc Disord*. 2020 May 27.
86. **Agrawal Y**. Vestibular cognition: building a framework. *Cogn Neuropsychol*. 2020 Jun 17:1-2.
87. Wei EX, Anson ER, Resnick SM, **Agrawal Y**. Psychometric Tests and Spatial Navigation: Data From the Baltimore Longitudinal Study of Aging. *Front Neurol*. 2020 Jun 11;11:484.
88. **Agrawal Y**, Merfeld DM, Horak FB, Redfern MS, Manor B, Westlake KP, Holstein GR, Smith PF, Bhatt T, Bohnen NI, Lipsitz LA. Aging, Vestibular Function, and Balance: Proceedings of a National Institute on Aging/National Institute on Deafness and Other Communication Disorders Workshop. *J Gerontol A Biol Sci Med Sci*. 2020 Jul 3:glaa097.
89. Bhasin S, Gill TM, Reuben DB, Latham NK, Ganz DA, Greene EJ, Dziura J, Basaria S, Gurwitz JH, Dykes PC, McMahon S, Storer TW, Gazarian P, Miller ME, Trivison TG, Esserman D, Carnie MB, Goehring L, Fagan M, Greenspan SL, Alexander N, Wiggins J, Ko F, Siu AL, Volpi E, Wu AW, Rich J, Waring SC, Wallace RB, Casteel C, Resnick NM, Magaziner J, Charpentier P, Lu C, Araujo K, Rajeevan H, Meng C, Allore H, Brawley BF, Eder R, McGloin JM, Skokos EA, Duncan PW, Baker D, Boulton C, Correa-de-Araujo R, Peduzzi P; STRIDE Trial Investigators. A Randomized Trial of a Multifactorial Strategy to Prevent Serious Fall Injuries. *N Engl J Med*. 2020 Jul 9;383(2):129-140.

#### Review Articles [RA]

1. Weinreich HM, **Agrawal Y**. The link between allergy and Menière's disease. *Curr Opin Otolaryngol Head Neck Surg*. 2014 Jun;22(3):227-30.
2. Miller MW, **Agrawal Y**. Intratympanic Therapies for Menière's disease. *Curr Otorhinolaryngol Rep*. 2014 Sep 1;2(3):137-143.
3. Fong E, Li C, Aslakson R, **Agrawal Y**. A systematic review of patient-reported outcome measures in clinical vestibular research. *Arch Phys Med Rehabil*. 2014 Oct 8.
4. Bigelow RT, **Agrawal Y**. Vestibular involvement in cognition: visuospatial ability, attention, executive function, and memory. *J Vestib Res*. 2015. Jun 2;25(2):73-89.
5. Jiam NT, Li C, **Agrawal Y**. Hearing loss and falls: a systematic review and meta-analysis. *Laryngoscope*. 2016 Mar 24.
6. **Agrawal Y**. Editorial: Age-Related Vestibular Loss: Current Understanding and Future Research Directions. *Front Neurol*. 2017 Aug 30;8:443.
7. **Agrawal Y**, Smith PF, Rosenberg PB. Vestibular impairment, cognitive decline and Alzheimer's disease: balancing the evidence. *Aging Ment Health*. 2019 Jan 29:1-4.
8. Walther LE, Löhler J, **Agrawal Y**, Motschall E, Schubach F, Meerpohl JJ, Schmucker C. Evaluating the Diagnostic Accuracy of the Head-Impulse Test: A Scoping Review. *JAMA Otolaryngol Head Neck Surg*. 2019 Jun 1;145(6):550-560.
9. Smith PF, **Agrawal Y**, Darlington CL. Sexual dimorphism in vestibular function and dysfunction. *J Neurophysiol*. 2019 Jun 1;121(6):2379-2391.

#### Case Reports [CR]

1. **Agrawal Y**, Godin DA, Belafsky PC. Cytotoxic agents in the treatment of laryngeal sarcoidosis: a case report and review of the literature. *J Voice*. Sep 2006;20(3):481-484.
2. Baxter M, **Agrawal Y**. Vestibular dysfunction in Turner syndrome: a case report. *Otol Neurotol*. 2014 Feb;35(2):294-6.

#### Book Chapters, Monographs [BC]

1. Niparko JK, **Agrawal Y** (2009), The Epidemiology of Hearing Loss: How Prevalent is Hearing Loss? In: *Cochlear Implants: Principles & Practices, 2e*, Ed. JK Niparko, Lippincott Williams & Wilkins.
2. **Agrawal Y**, Francis HW (2009), Immune-Mediated Inner Ear Disease, In: *Pearls and Myths in Rheumatology*, Ed. JH Stone, Springer.
3. **Agrawal Y**, Carey JC (2011), Peripheral Vestibular Disorders, In: *Bailey's Head and Neck Surgery – Otolaryngology*, Ed. J Johnson and C Rosen, Lippincott Williams & Wilkins.
4. **Agrawal Y**, Minor LB (2011), Meniere's Disease, In: *Vertigo & Imbalance (Oxford Textbook in Clinical Neurology)*, Ed. A Bronstein, Oxford University Press.

5. **Agrawal Y**, Rubin A, Wetmore SJ (2014), Dizziness, imbalance and age-related vestibular loss in the geriatric population, In: Geriatric Otolaryngology, Ed. RT Sataloff, Thieme.
6. Cassis A, **Agrawal Y** (2014), Treatment of vestibular migraine, In: Vestibular migraine, Ed. SJ Wetmore, Springer Science and Business Media.
7. Sun D, **Agrawal Y** (2014), Anatomy and physiology of the vestibular system, In: Sataloff's Comprehensive Textbook of Otolaryngology, Ed. RT Sataloff, JP Medical Publishers.
8. Pross S, **Agrawal Y** (2016), Meniere's Disease, In: Otolaryngology Clinical Case Studies: Oral Board Exam Review, Ed. R Mitchell, K Pereira.
9. Sharon J, **Agrawal Y** (2017), Vestibular Rehabilitation, In: Comprehensive Management of Acoustic Neuroma, Ed. C. Driscoll, M. Link, M. Carlson.
10. Ward B, **Agrawal Y** (2017), Vestibular Physiology, In: Glasscock-Shambaugh Surgery of the Ear, 7th Edition, Ed. D. Haynes.
11. **Agrawal Y** (2018), Dizziness Demographics and Population Health, In: Dizziness and Vertigo Across the Lifespan, 1st Edition, Ed. B. Kesser, A.T. Gleason.
12. Nieman C, **Agrawal Y**, Lin FR (2018), Geriatric Otolaryngology: Population Health and Clinical Implications, In: Cummings Otolaryngology Head and Neck Surgery, 7<sup>th</sup> Edition, Section Ed. H Francis.
13. Sorathia S, Schubert MC, **Agrawal Y** (2018), Dizziness and the Otolaryngology Point of View, In: Medical Clinics of North America Otolaryngology Issue, Section Ed. M Stewart.

#### Other Publications:

##### Media Releases or Interviews [MR]

- 7/28/08 Reuters. U.S. facing possible hearing loss epidemic – study  
<http://www.reuters.com/article/latestCrisis/idUSN28498722>
- 8/5/08 New York Times. Screening: Higher Rates of Hearing Loss Are Found  
<http://www.nytimes.com/2008/08/05/health/research/05scre.html>
- 5/26/09 Time Magazine. Many Elderly Falls Due to Inner-Ear Imbalance  
<http://www.time.com/time/health/article/0,8599,1900609,00.html>
- 6/1/09 New York Times. Awareness: Routine Tests Urged for Balance Problems  
<http://www.nytimes.com/2009/06/02/health/research/02awar.html>
- 9/28/09 Boston Globe. Study finds balance issues are widespread in older people  
[http://www.boston.com/news/health/articles/2009/09/28/study\\_finds\\_balance\\_issues\\_are\\_widespread\\_in\\_older\\_people/](http://www.boston.com/news/health/articles/2009/09/28/study_finds_balance_issues_are_widespread_in_older_people/)

#### FUNDING

##### EXTRAMURAL Funding

##### Research Extramural Funding - Current

- 1/15/19 – 1/14/24 Contribution of sensorimotor function to risk and pathogenic mechanisms of Alzheimer's disease and related dementias  
 NIH/NIA R01 AG061786  
 \$3,894,134  
 Role: Multi-PI: 20%
- 8/15/18 – 4/30/23 Does vestibular loss predict falls in patients with Alzheimer's Disease?  
 NIH/NIA R01 AG057667  
 \$1,761,511  
 Role: PI: 50%

##### Research Extramural Funding - Previous

- 8/1/16 – 7/31/20 Does vestibular loss predict hippocampal atrophy in aging adults?  
 NIH/NIDCD R03 DC015583  
 \$300,000  
 Role: PI: 12.5%

- 6/1/14 – 10/31/19 Multi-center Falls Prevention Trial  
 NIA/PCORI 1U01 AG048270  
 \$30,000,000 (Total grant award to all participating centers, ~\$2M to JHU)  
 PI: Bhasin S  
 Role: Co-I, 5%; I am the Hopkins Site Director responsible for enrolling ~600 participants for this multicenter randomized controlled trial of a multi-component falls prevention intervention to reduce injurious falls in older adults.
- 3/15/14 – 2/28/19 Age-related changes in the vestibular system and functional implications  
 NIH/NIDCD K23 DC013056  
 \$1,111,375  
 Role: PI: 75%
- 7/1/12 - 1/30/14 Influence of vestibular dysfunction on fall risk in older individuals  
 American Otological Society Clinician-Scientist Award  
 \$240,000  
 Role: PI: 50%
- 7/1/11 - 6/30/13 Diabetes and vestibular dysfunction  
 American Academy of Otolaryngology Resident Research Award  
 \$10,000  
 PI: Ward  
 Role: Mentor, 5%; I supervised this Resident Research grant
- 7/1/10 - 0/30/12 Physiology of vestibular dysfunction and clinical implications  
 American Neurotological Society Silverstein Award  
 \$25,000  
 Role: PI: 25%
- INTRAMURAL Funding**  
 Research Intramural Funding - Previous
- 7/1/17 – 6/30/19 Detection of wandering behaviors using a body-worn accelerometer in patients with Alzheimer's Disease  
 Johns Hopkins Edward R. Roybal Center for Translational Research  
 \$40,000  
 Role: PI
- 9/1/18 – 8/31/19 Spatial navigation ability in patients with vestibular loss  
 Rubenstein Grant  
 \$100,000  
 Role: PI
- 5/1/13 – 5/1/15 Johns Hopkins Older Americans Independence Center  
 NIA P30 AG021334  
 \$40,000  
 Role: PI: 10%
- 7/1/10 - 6/30/12 Vestibular physiology and aging  
 Older Americans Independence Center Pilot / Exploratory Studies Core Award  
 \$35,000  
 Role: PI: 25%

## CLINICAL ACTIVITIES

Clinical Focus



My clinical practice is focused on the medical and surgical management of diseases of the ear and skull base. Commonly performed procedures include cochlear implants, resection of skull base tumors such as acoustic neuromas, and chronic ear disease surgery. I have a particular interest in management of complex vestibular disorders, and draw patients from throughout the country to provide cutting-edge diagnostic and therapeutic neurotologic and vestibular care.

#### Certification

Medical, other state/government licensure

2010-present Maryland # D70378

#### Boards, other specialty certification

2011-present American Board of Otolaryngology

2014-present American Board of Otolaryngology Neurotology Subspecialty Certificate # 20519

#### Clinical (Service) Responsibilities

2011-present Neurotology Clinic Johns Hopkins Hospital, 10%

2017-present Neurotology Clinic Johns Hopkins Greenspring Station, 1 day/2 weeks, 10%

2012-present Otolaryngology on-call service, Johns Hopkins Hospital, 2-3 weeks/year

#### Clinical Program Building/Leadership

2011-present I founded the Johns Hopkins Multidisciplinary Falls Prevention Clinic. The goal of the clinic is to provide state-of-the-art, evidence-based falls risk assessment to prevent falls in older adults.

2018-present Medical Director, Greenspring Station Otolaryngology-Head and Neck Surgery

### EDUCATIONAL ACTIVITIES

#### Educational Focus

My educational focus is 1) educating other clinicians about the evidence-based management of vestibular disorders; and 2) direct mentorship of trainees in my research group. I have mentored >20 pre-doctoral and post-doctoral trainees from Johns Hopkins and internationally whose productivity is documented below.

#### Teaching

##### Classroom instruction

##### *JHMI/Regional*

2010-present Instructor at annual Temporal Bone Laboratory for residents (5 4-hour session for 20 residents per year)

2014-present Lecturer at Otolaryngology Resident Didactic series on Binocular Microscopy (1.5 hour session and lab for 20 residents and medical students per year), Complications of Chronic Otitis Media (1.5 hour session for 20 residents and medical students per year), and Tympanoplasty/Ossicular Chain Reconstruction Surgery (1.5 hour session for 20 residents and medical students per year).

2015-present Lecturer at School of Public Health course "Epidemiology of Sensory Loss in Aging" (3 1.5-hour sessions)

2017 Lecturer to Johns Hopkins Neuroradiology Fellows "Hearing loss: diagnosis and management" (1.5 hours)

##### *National*

5/17/19 Faculty in the American Neurotology Society Temporal Bone Dissection Boot Camp for incoming Otolaryngology, Neurotology & Skull Base Surgery fellows in Salt Lake City, UT

10/1/19 Invited faculty, Washington University Hospitals Annual Temporal Bone Dissection Course, St Louis, MO

10/18/19 Invited faculty, Case Western University Hospitals Annual Temporal Bone Dissection Course, Cleveland, OH

*International* None

## Clinical instruction

2012-present Outpatient Neurotology Clinic, Attending, I supervise 1-2 residents and fellows in my weekly Neurotology Clinic and in my operative procedures 4-5 days per month

## CME instruction

### *JHMI/Regional*

3/7/14 Lecturer, "Dizziness and fall prevention in older adults," Outpatient Neurology CME Course, Johns Hopkins  
9/9/14 Lecturer, "Overview of Falls and Balance Problems," Course on Falls and Balance, Physical Medicine and Rehabilitation, Johns Hopkins  
11/1/14 Lecturer, "A Balancing Act: Preventing falls in middle and old age," A Woman's Journey  
2/27/15 Lecturer, "I'm Dizzy! Evidence-based management of dizziness and vestibular loss in older adults," Geriatrics CME Course, Johns Hopkins  
2/14/16 Lecturer, "The dizzy patient: an update on new diagnostic techniques and treatment," Otolaryngology-Head and Neck Surgery Third Atlantic Update, Johns Hopkins  
2/15/16 Lecturer, "What an otolaryngologist needs to know about management of concussion and traumatic brain injury," Otolaryngology-Head and Neck Surgery Third Atlantic Update, Johns Hopkins  
5/2/16 Lecturer, "Balance problems and fall prevention," 61st Annual Philip A. Tumulty Topics in Clinical Medicine, Johns Hopkins  
10/18/16 Lecturer, "Balance problems and fall prevention," Texas Club of Internists: Fall Clinical Meeting  
11/05/16 Lecturer, "BPPV Clinical Practice Guidelines," Evidence-Based Medicine in ENT, Johns Hopkins  
3/31/17 Lecturer, "Epidemiology of Vestibular Disorders," Vestibular Masterclass, Johns Hopkins  
5/4/17 Lecturer, "Balance Disorders and Fall Prevention for the Internist," Union Memorial CME  
2/8/18 Lecturer, "Balance Disorders and Fall Prevention," Geriatrics CME Course, Johns Hopkins  
3/17/18 Lecturer, "Balance Disorders and Fall Prevention," Cherry Blossom Otolaryngology Update, George Washington University.

### *National*

3/7/15 Lecturer, "The Dizzy Patient," American College of Physicians Virginia Chapter's Annual Meeting and Clinical Update

### *International*

6/27/17 Seminar Chair, IFOS Meeting, "Vestibular Rehabilitation," Paris, France

## Workshops/seminars

### *JHMI/Regional*

3/25/11 Seminar, "Multidisciplinary fall prevention in the elderly," Society of Head and Neck Nursing Annual Meeting  
11/5/15 Seminar Leader, Mentorship and networking for Johns Hopkins Center for Hearing and Balance trainees and junior faculty  
11/17/15 Panelist: Mentor-mentee relationships, Johns Hopkins Dean's Research Integrity Lecture Series

### *National*

2/27/12 Seminar Panelist, "Prevalence of vestibular dysfunction and medical need for effective treatment," ARO Mid-Winter Meeting San Diego, CA  
9/23/14 Seminar Co-Chair and Panelist, "Video Head Impulse Testing," American Academy of Otolaryngology-HNS Annual Meeting, Orlando, FL  
9/23/14 Seminar Chair, "Epidemiology of Geriatric Dizziness," American Academy of Otolaryngology-HNS Annual Meeting, Orlando, FL  
11/8/14 Seminar Panelist, "Association between saccular function and gait speed: data from the Baltimore Longitudinal Study of Aging," Gerontological Society of America Annual Meeting, Washington, DC  
9/27/15 Seminar Panelist, "Pharmacologic and surgical treatment of vertigo," American Academy of Otolaryngology-HNS Annual Meeting, Dallas, TX

- 9/19/16 Seminar Chair, “Insights in vestibular testing,” American Academy of Otolaryngology-HNS Annual Meeting, San Diego, CA
- 9/21/16 Seminar Panelist, “Vestibular loss in aging adults,” American Academy of Otolaryngology-HNS Annual Meeting, San Diego, CA
- 9/12/17 Seminar Panelist, “Video Head Impulse Testing,” American Academy of Otolaryngology-HNS Annual Meeting, Chicago, IL
- 9/13/17 Seminar Panelist, “Vestibular rehabilitation in older adults,” American Academy of Otolaryngology-HNS Annual Meeting, Chicago, IL
- 2/12/18 Seminar Panelist, “Hidden vestibular loss in aging adults,” ARO Mid-Winter Meeting San Diego, CA
- 11/18/18 Seminar Panelist, “Detection of wandering using accelerometry in dementia,” Gerontological Society of America Annual Meeting, Boston, MA

*International*

- 6/26/17 Seminar Panelist, “Vestibular loss and cognition in aging adults,” IFOS Meeting, Paris, France

Mentoring

Pre-doctoral Advisees / Mentees

- 2010-13 Geraldine Zuniga, MD [medical student, Monterey Technical University, Mexico], currently Otolaryngology-HNS Resident, Vanderbilt University; co-authored articles OR 17,22,28,34,35,36,43
- 2011-13 Marcela Davalos-Bichara, MD, [medical student, Monterey Technical University, Mexico], currently Geriatrics Fellow, Johns Hopkins Bayview. Awarded \$1000 Health Sciences Research Award for best trainee paper submitted to the Gerontological Society of America Annual Meeting, November 2011, Boston, MA; co-authored articles OR 15,17,19,22,28,32,34,36
- 2013-15 Carol Li, MD, [Johns Hopkins medical student], currently Otolaryngology-HNS resident, Columbia University. Awarded 2013 Dean’s Medical Student Research Fellowship; co-authored articles OR 35,38,40,41,51,61; RA 3,5
- 2013-14 Andrew Layman, MD, [Johns Hopkins medical student], currently Johns Hopkins Pathology resident. Awarded 2013 Dean’s Medical Student Research Fellowship; co-authored articles OR 38,40,41
- 2014-15 Eugene Semenov, MD, [Johns Hopkins medical student], currently Dermatology Resident, Washington University. Awarded 2014 Dean’s Medical Student Research Fellowship; co-authored articles OR 44,46,47,49,56,69
- 2014-16 Robin Bigelow, MD, [Johns Hopkins medical student], currently Otolaryngology-HNS resident. Awarded T32 pre-doctoral fellowship; co-authored articles OR 44,46,47,53,55,56,57,58,64,65,72; RA 4
- 2014-16 Shekhar Gadkaree, MD, [Johns Hopkins medical student], currently Otolaryngology-HNS resident, Massachusetts Eye and Ear Infirmary; co-authored articles OR 48,61
- 2015-17 Johnny Xie, MD, [Johns Hopkins medical student], currently Otolaryngology-HNS resident, University of Michigan; co-authored articles OR 54,62,64
- 2017 Dara Bakar, BS [Brown University medical student], currently Brown University medical student, Co-authored articles OR 71
- 2017-present Eric Wei, BS, [Johns Hopkins medical student], currently Johns Hopkins medical student. Awarded MSTAR (Medical Student Training in Aging Research) grant. Co-authored articles OR 66,67,68,70,71,82
- 2017-present Kevin Pineault, BS, [Johns Hopkins medical student], currently Johns Hopkins medical student; co-authored articles OR 69
- 2018-present Priyal Gandhi, BA, [Johns Hopkins medical student], currently Johns Hopkins medical student. Awarded MSTAR (Medical Student Training in Aging Research) grant.
- 2018-present Benjamin Ostrander, BS, [Johns Hopkins medical student], currently Johns Hopkins medical student.

Post-doctoral Advisees / Mentees

- 2013-present Susan Emmett, MD, [Otolaryngology-HNS resident], currently Assistant Professor, Otolaryngology, Duke University; I was her primary Otolaryngology departmental mentor, assisted with progress through residency, career counselling

- 2010-present Bryan Ward, MD, [Otolaryngology-HNS resident], currently Neurotology fellow, Johns Hopkins, will be joining the Johns Hopkins Otolaryngology faculty July 1, 2018. Awarded American Academy of Otolaryngology CORE Resident Research Award (\$10,000); co-authored articles OR 20,27,43; BC 10
- 2011-present Aisha Harun, MD, [medical student, Otolaryngology-HNS resident], currently Otolaryngology-HNS resident, Johns Hopkins. Awarded American Academy of Otolaryngology CORE Resident Research Award (\$10,000); co-authored articles OR 21,42,49,51,53,58,67,68
- 2012-present Daniel Sun, MD, [Otolaryngology-HNS resident], currently Neurotology Fellow, University of Iowa; co-authored articles OR 34,48,50,61; BC 7
- 2013 Olympia Kremmyda, MD, [Neurology resident, Ludwig Maximilians University, Munich, Germany], currently Neurology resident, Ludwig Maximilians University; co-authored articles OR 23,31,33
- 2013 Georgios Mantokoudis, MD, [Otology Research Fellow], currently Otology faculty, Bern Kantonspital, Switzerland; co-authored articles OR 29,39,45,59
- 2014-2018 Eric Anson, PT, PhD, [Johns Hopkins post-doctoral fellow], currently Assistant Professor, University of Rochester. Awarded T32 post-doctoral fellowship; co-authored articles OR 38,54,55,56,57,62,65,71,72
- 2017-present Rebecca Kamil, MD, [Otolaryngology-HNS resident], currently Otolaryngology-HNS resident, Johns Hopkins. Awarded American Otological Society Resident Research Award (\$2,000); co-authored articles OR 71,73,74,77
- 2018-present Brooke Klatt, PT, PhD, [Johns Hopkins post-doctoral fellow], currently Johns Hopkins post-doctoral fellow; co-authored articles OR 78

#### Thesis committees

- 2017 Lidia Frejo Navarro, PhD, Biomedicine, University of Granada, “Mechanisms of Inflammation in Meniere’s Disease,” committee member
- 2017 Junrui Di, PhD, Biostatistics, JHSPH, committee member
- 2017 Maria Makhina, AuD, Towson University, committee member
- 2017-18 Nicholas Reed, AuD, PhD, JHSPH, committee member
- 2017-18 Athira Jacob, Masters in Engineering, Johns Hopkins Whiting School, co-Advisor

#### Training grant participation

- 2012-present Core Faculty, Johns Hopkins Center for Hearing and Balance Training Grant T32 DC000023-31

#### Educational/Program Building Leadership

- 2009-present Director of Professionalism, Department of Otolaryngology-Head and Neck Surgery. This role encompasses both faculty development and faculty affairs in the Department.
- 2018-present Co-chair, Civility Clinical Community with Dr. Renee Blanding, VPMA Bayview.

## RESEARCH ACTIVITIES

### Research Focus

My research program is aimed at characterizing the changes in vestibular function that occur with aging and understanding the impacts of these changes to older adults. I completed a NIH K23 career development award, and am currently the PI on a NIH R01 proposal on Falls in Alzheimer’s Disease, and a NIH R01 on sensorimotor predictors of Alzheimer’s Disease. My research group conducts ongoing comprehensive vestibular physiologic testing within the Baltimore Longitudinal Study of Aging. I focus on how vestibular function affects physical function, including postural control, gait and falls, as well as cognitive function, particularly spatial cognition. Notably, my research has recently explored vestibular impairment in patients with Alzheimer’s disease. The research is inter-disciplinary and I work with a diverse group of collaborators, including neuroscientists, engineers, physical therapists, geriatrics researchers and statisticians.

### Research Program Building/Leadership

- 2016-present Founding member of the Department of Otolaryngology-Head and Neck Surgery Internal Grant Review Committee, convened to review all K- and R-level NIH grants submitted by junior faculty

## Inventions, Patents, Copyrights

2012 Copyright on Hopkins Falls Grading Scale

## SYSTEM INNOVATION AND QUALITY IMPROVEMENT ACTIVITIES

### System Innovation and Quality Improvement Efforts within JHM

2011-present Medical Director, Founder, Johns Hopkins Multidisciplinary Falls Prevention Clinic, described above.

### System Innovation and Quality Improvement Efforts outside of JHM

2014-present Co-PI, Johns Hopkins Clinical Trial Site of the NIA/PCORI-funded STRIDE clinical trial. The STRIDE (Strategies to Reduce Injuries and Develop Confidence in Elders) trial is a multicenter randomized clinical trial involving 10 clinical sites across the US. The trial is evaluating the effectiveness of an evidence-based multifactorial falls prevention strategy coordinated by a nurse falls care manager vs. usual care among 6000 individuals over age 75. I am the local Johns Hopkins site Co-PI, as well as a member of the study's Ancillary Studies Committee, and the National Patient Stakeholder Committee.

### System Innovation and Quality Improvement Program Building/Leadership

2011-present I founded the Johns Hopkins Multidisciplinary Falls Prevention Clinic, described above. This Clinic was the basis for Johns Hopkins' participation in the landmark national multicenter falls prevention randomized controlled trial funded by NIA/PCORI.

## ORGANIZATIONAL ACTIVITIES

### Institutional Administrative Appointments

2007-10 Member, Johns Hopkins Department of Otolaryngology Resident Education Committee  
2008-present Member, Johns Hopkins Department of Otolaryngology Diversity Committee  
2008-09 Member, Johns Hopkins Department of Otolaryngology Quality Improvement Committee  
2010-present Interviewer, Johns Hopkins Otology/Neurotology Fellowship  
2013-present Interviewer, Johns Hopkins Otolaryngology-Head and Neck Surgery Residency  
2014-present Associate Program Director, Johns Hopkins Otology/Neurotology Fellowship  
2016-present Member, Johns Hopkins Medicine Alliance for Patients (JMAP) Hopkins ACO Medical and Quality Management Committee  
2018 Member, Director of Neuroradiology Search Committee

### Editorial Activities

#### Editorial Board appointments

2014-present Ear and Hearing Editorial Board Member – Associate Editor for Otology and Vestibular Sciences  
2015-present Otology and Neurotology Editorial Board  
2017-present Frontiers of Neuro-otology Associate Editor

### Journal peer review activities

2008-present Otology and Neurotology  
2009-present American Journal of Epidemiology  
2009-present The Laryngoscope  
2010-present Ear and Hearing  
2010-present Archives of Physical Medicine and Rehabilitation

### Advisory Committees, Review Groups/Study Sections

2010 Invited member, CDC Expert Panel on Fall Prevention, Atlanta, GA. I was invited as a physician expert to advise the CDC on strategies to increase and improve community-based fall prevention efforts. The 2-day expert panel meeting led to a white paper provided to the Director of the CDC's National Injury Prevention Center.  
2013-16 Member, American Neurotology Society Scientific Advisory Committee.  
2013-present Otology Study Section member, Centralized Otolaryngology Research Efforts (CORE).

- 2016-present Member, American Neurotology Society Education Committee.
- 2016-present Member, Bárány International Neuro-Otology Society Classification Committee.
- 2016-present Chair, Presbyvestibulopathy Subcommittee, Bárány Society International Classification of Vestibular Diseases.
- 2017-18 Member, American Academy of Otolaryngology-Head and Neck Surgery and American Academy of Neurology Neurotology Quality Measure Development Work Group.
- 2017 Ad-hoc reviewer, NIDCD Communications Disorders Review Committee (CDRD) Study Section
- 2017 Ad-hoc reviewer, NIH Clinical Neurological and Neuropsychiatric Disorders and Aging Special Emphasis Panel
- 2017 Advisory Board Member, OpenIDEO/AARP Falls Prevention Challenge
- 2017-18 Ad-hoc reviewer, NIH Sensorimotor Integration (SMI) Study Section
- 2017-present Member, American Academy of Otolaryngology-Head and Neck Surgery Nominating Committee, elected to this committee following a national election
- 2017-present Member, American Board of Otolaryngology (ABOto) Task Force on New Materials, voted onto this Task Force by ABOto Board of Directors
- 2017-present Chair, American Neurotology Society (ANS) committee on EMR (Electronic Medical Record) in Otology-Neurotology.
- 2019 Chair, NIA/NIDCD Workshop on Central and Peripheral Control of Balance in Older Adults, workshop to be held April 23-24 in Bethesda, MD
- 2019-present Standing member, Sensorimotor Integration NIH Study Section
- 2019 Invited member, Advisory Committee to US Department of Veterans Affairs workshop on Auditory and Vestibular Dysfunction in Service members, September 5-6 in Portland, OR
- 2019 Invited member, American Board of Otolaryngology Oral Board Examiner

Professional Societies

- 2006-present Member, American Academy of Otolaryngology
- 2006-present Member, Maryland Society of Otolaryngology
- 2010-present Associate member, American Neurotology Society
- 2013-15 Consultant, American Academy of Otolaryngology-Head and Neck Surgery Geriatric Otolaryngology Committee
- 2013-16 Member, Association for Research in Otolaryngology Publications Committee
- 2014-present Associate fellow, American College of Surgeons
- 2014-present Member, Bárány International Neuro-Otology Society
- 2014-present Co-chair, Bárány International Neuro-Otology Society Junior Faculty Committee
- 2017-present Member, Association for Research in Otolaryngology External Relations Committee
- 2017-present Member, Triological Society
- 2017-present Chair, American Academy of Otolaryngology-Head and Neck Surgery Equilibrium Committee

Conference organizer

*JHMI/Regional*

- 12/10/16 Symposium organizer, “Humanism in medicine: further the art of doctoring,” Johns Hopkins SOM

*National*

None

*International*

- 6/12/18 Director Otology-Neurotology Teaching Day, Bárány Society Meeting, Uppsala, Sweden
- 5/19/19 Vestibular-Oriented Research Meeting Conference Organizer, conference held in Dayton OH on May 19-22, 2019, was granted an NIH/NIDCD R13 grant to support the conference

Session Chair

*JHMI/Regional* None

*National*

- 11/22/13 Session co-chair, Symposium on Hearing and Vestibular Loss and Aging, Gerontological Society of America Annual Meeting, New Orleans, LA
- 2/23/15 Symposium chair, Age-related vestibular loss: Setting the 5-year research agenda, Association for Research in Otolaryngology Mid-winter Meeting, Baltimore, MD
- 4/24/15 Moderator: Cochlear Implant Session, American Neurotology Society Spring Meeting, Boston, MA
- 2/13/17 Symposium chair: Vestibular influence on cognitive function, Association for Research in Otolaryngology Mid-winter Meeting, Baltimore, MD

*International*

- 6/27/17 Seminar Chair, IFOS Meeting, “Vestibular Rehabilitation,” Paris, France

Consultantships

- 2017-present Consultant, American Association of Retired Persons (AARP) Services Inc, I am providing pre-market guidance into the development of a wearable technology and associated mobile application to help older adults reduce their risk of falls

RECOGNITION

Awards, Honors

- 1996 John Harvard Scholarship for Academic Achievement, Harvard University
- 1997-2000 Elizabeth Cary Agassiz Scholarship for Academic Achievement, Harvard University
- 2005 MK Dasey award for “academic achievement and strength of character,” Yale School of Medicine Graduation
- 2011 American Neurotology Society Trainee Award for best paper submitted to the Spring meeting
- 2012 Tilghman Travel Fellowship for clinical research at the Ludwig-Maximilian University, Munich, Germany
- 2013 Johns Hopkins Bloomberg School of Public Health Dean’s Research Scholarship
- 2014 Young Investigator of the Year prize, Bárány Society
- 2015 Otology & Neurotology Award for 2<sup>nd</sup> most highly-cited paper in the last 5 years (2010-2015)
- 2015 Fellow, American College of Surgeons
- 2016 Visiting Professor, Hartford Hospital, Hartford CT
- 2019 Benjamins Prize, Collegium Oto-rhino-laryngologicum Amicitiae Sacrum
- 2019 Senturia Lecturer, Washington University, St Louis, MO
- 2020 Visiting Professor, University of Texas-Southwestern Medical Center, Dallas TX

Invited Talks, Panels

*JHMI/Regional*

- 4/14/10 Speaker, Acoustical Society of America Annual Meeting, “Epidemiology of noise-induced hearing loss: data from the National Health and Nutrition Examination Survey,” Baltimore, MD
- 2/16/12 Speaker, University of Maryland ORL Grand Rounds, “Vestibular physiology and aging,” Baltimore, MD
- 3/7/12 Speaker, Johns Hopkins Older Americans Independence Center Pepper Scholars Meeting, “The Vestibular System: age-related decline and new study questions,” Baltimore, MD
- 1/2/14 Speaker, Johns Hopkins Geriatric Medicine Grand Rounds, “Age-related vestibular loss: basic concepts and new directions,” Baltimore, MD
- 2/27/14 Speaker, Maryland Society of Otolaryngology Spring Meeting, “Age-related vestibular loss as a public health issue,” Baltimore, MD
- 10/21/14 Speaker, Johns Hopkins Center for Health Services and Outcomes Research Seminar, “STRIDE: a pragmatic, randomized trial of a multifactorial fall injury prevention strategy,” Baltimore, MD
- 3/27/15 Speaker, Baltimore Longitudinal Study of Aging Research Seminar, “Vestibular function and cognitive outcomes at the Baltimore Longitudinal Study of Aging,” Baltimore, MD
- 11/16/15 Speaker, Johns Hopkins Dementia Consortium, “Vestibular loss and cognitive decline in older adults,” Baltimore, MD
- 3/7/17 Speaker, Johns Hopkins Center for Hearing and Balance, “Vestibular loss and cognition in aging adults,” Baltimore, MD

- 6/9/17 Speaker, Johns Hopkins Otolaryngology-HNS Biennial Research Symposium, “Vestibular loss and cognition in aging adults,” Baltimore, MD
- 10/19/18 Speaker, Johns Hopkins Rubenstein Hearing and Balance Symposium, “Vestibular loss and cognition in aging adults,” Baltimore, MD
- National*
- 10/13/11 Speaker, University of Chicago O-HNS Grand Rounds, “Vestibular physiology and aging,” Chicago, IL
- 12/2/11 Speaker, University of Michigan Multidisciplinary Vestibular Conference, “Vestibular physiology and aging,” Ann Arbor, MI
- 12/15/11 Speaker, University of Pennsylvania ORL:HNS Grand Rounds, “Vestibular physiology and aging,” Philadelphia, PA
- 12/12/13 Speaker, UCSF Hearing and Balance Seminar, “Epidemiology of age-related vestibular loss,” UCSF
- 12/13/13 Speaker, Stanford University Otolaryngology Grand Rounds, “Age-related vestibular loss as a health issue,” Palo Alto, CA
- 1/18/14 Speaker, Medel Hearing Implants for Older Adults 2014 Symposium, “Epidemiology of Vestibular Dysfunction,” New York City, NY
- 6/12/14 Speaker, 21<sup>st</sup> Annual Appalachian Spring Conference, “Epidemiology of age-related vestibular loss,” Mountain Home, TN
- 7/25/14 Speaker, Stanford University Otolaryngology Faculty Meeting, “Vestibular Neurotology,” Palo Alto, CA
- 3/25/15 Speaker, American Academy of Audiology’s Academy Research Conference, “Epidemiology of Age-related Vestibular Loss,” San Antonio, TX
- 10/1/15 Speaker, Massachusetts Eye and Ear Infirmary Department of Otolaryngology Grand Rounds, “Epidemiology of Age-related Vestibular Loss,” Boston, MA
- 3/1/16 Keynote Speaker, American Balance Society Annual Meeting, “Vestibular Loss in Aging Adults: a Public Health Issue,” Scottsdale, AZ
- 3/15/16 Speaker, Hartford Hospital Vestibular Conference, “Vestibular Loss in Aging Adults: a Public Health Issue,” Hartford, CT
- 9/29/16 Speaker, University of Rochester Otolaryngology-Head and Neck Surgery Grand Rounds, “Vestibular Loss and Cognitive Decline in Aging Adults,” Rochester, NY
- 10/04/16 Speaker, NIDCD Seminar Series, “Vestibular Loss and Cognitive Decline in Aging Adults,” Bethesda, MD
- 11/07/16 Speaker, 2<sup>nd</sup> University of Maryland Auditory and Vestibular Research Translational Research Day, “Vestibular Loss and Cognitive Decline in Aging Adults,” Baltimore, MD
- 1/14/17 Speaker, Medel Hearing Implants for Older Adults 2017 Symposium, “Vestibular Loss and Cognition,” New York City, NY
- 3/17/17 Speaker, Towson University Medical Audiology Symposium, “Vestibular Loss and Cognition in Aging Adults,” Baltimore, MD
- 11/13/17 Keynote Speaker, Vestibular Disorders Second Annual Symposium, “Evaluation of Vestibular Disorders,” and “Setting up a Vestibular Practice,” Hofstra Northwell School of Medicine, Great Neck, NY.
- 4/22/18 Symposium Chair, “Electronic medical record and neurotology,” American Neurotology Society Spring Meeting, Bethesda, MD
- 8/19/18 Speaker, International Conference on Vestibular Rehabilitation, “Vestibular Loss and Cognitive Decline in Aging Adults,” Chicago, IL
- 10/5/18 Speaker, Knowles Hearing Center Symposium, “Vestibular Loss and Cognitive Decline in Aging Adults,” Evanston, IL
- 10/6/18 Symposium Chair, “Dizziness in the geriatric patient,” American Neurotology Society Fall Meeting, Atlanta, GA
- 12/6/18 Grand Rounds Speaker, “Vestibular loss and cognition in aging adults,” Cornell University Department of Otolaryngology-Head and Neck Surgery, New York, NY
- 1/26/19 Invited panelist, “Making a diagnosis: testing in Meniere’s disease,” Triological Society Combined Sections Meeting, San Diego, CA



- 4/11/19 Grand Rounds Speaker, “Vestibular loss and cognition in aging adults,” Penn State Otolaryngology-Head and Neck Surgery, Hershey, PA
- 10/1/19 Speaker, “Vestibular function in Meniere’s disease,” St Louis ENT Club, St Louis, MO
- 10/2/19 Senturia Lecturer, “Vestibular Loss and Cognitive Decline in Aging Adults,” Washington University, St Louis, MO

*International*

- 5/23/12 Speaker, Ludwig-Maximilian University German Vertigo Center Grand Rounds, “Vestibular physiology and aging: new study questions,” Munich, Germany
- 8/13/12 Speaker, Hospital of the University of Berlin (Charité) Otolaryngology Grand Rounds, “Vestibular physiology and aging: the Johns Hopkins experience,” Berlin, Germany
- 11/16/12 Speaker, Neuro-otology Society of Australia Annual and Clinical Scientific Meeting, “Vestibular physiology and aging,” Sydney, Australia
- 6/11/15 Speaker, 3<sup>rd</sup> European ORL-HNS Congress, “Vestibular perception and aging,” Prague, Czech Republic
- 10/9/15 Keynote Speaker, American Hospital of Paris Best of ENT 2015 Conference, “Vestibular loss in aging adults,” Paris, France
- 6/9/16 Speaker, Bárány Society Satellite Symposium, “Vestibular loss and cognition in aging adults,” Seoul, South Korea
- 10/8/16 Keynote Speaker, 11<sup>th</sup> Hennig Arzneimittel Vertigo Symposium, “Vestibular Loss and Cognition in Aging Adults,” Frankfurt, Germany
- 1/26/17 Keynote Speaker and Ed Marres Lecturer, 21<sup>st</sup> Annual Maastricht University Course for Vestibular Disorders, “Vestibular Loss in Aging Adults,” Vaals, Netherlands
- 3/11/17 Speaker, Bárány Society International Classification of Vestibular Diseases Meeting, “Vestibular Loss in Aging Adults,” Berlin, Germany
- 6/14/18 Speaker, Bárány Society Satellite Symposium, “Vestibular loss and cognitive decline in aging adults,” Uppsala, Sweden
- 6/27/18 Speaker, iNAV Symposium, “Vestibular loss and spatial navigation in Alzheimer’s disease,” Mont-Tremblant, Canada
- 1/22/19 Speaker, 37<sup>th</sup> European Workshop on Cognitive Neuropsychology, “Vestibular loss and cognitive decline in aging adults,” Bressanone, Italy
- 3/20/19 Speaker, University of Bern ENT Symposium, “Vestibular loss and cognitive decline in aging adults,” Switzerland
- 5/28/19 Speaker, Politzer Society Meeting, “Vestibular loss in aging adults,” Warsaw, Poland
- 6/1/19 Speaker, Hippocampus Meeting, “Vestibular loss and cognitive decline in aging adults,” Taormina, Italy
- 8/27/19 Speaker, CORLAS Meeting, “Vestibular function and cortical and subcortical alterations in an aging population,” Bern, Switzerland

OTHER PROFESSIONAL ACCOMPLISHMENTS

Community Service

2015-present Board of Directors, House of Ruth Maryland