

October 2023

**Curriculum Vitae**  
**RANDALL A. BLY, MD**

**1. PERSONAL DATA**

Place of birth: Cleveland, Ohio  
Citizenship: USA

**2. EDUCATION**

2000 - 2004 B.S., Mechanical Engineering, Princeton University, Princeton, NJ  
Certificate in Engineering Biology  
Certificate in Materials Engineering  
2005 - 2009 M.D., Stritch School of Medicine, Loyola University, Maywood, IL

**3. POSTGRADUATE TRAINING**

2004 – 2005 National Science Foundation International Research Fellow, Princeton University and Alexandria University  
2009 - 2015 Otolaryngology Residency Program, University of Washington, Seattle, WA  
2012 - 2013 National Institutes of Health T32 Research Fellow, University of Washington, Seattle, WA, Departments of Electrical Engineering, BioRobotics Laboratory and Otolaryngology-Head and Neck Surgery  
2015 - 2016 Pediatric Otolaryngology Fellowship, Seattle Children’s Hospital, Seattle, WA

**4. FACULTY POSITIONS HELD**

2016 - 2017 Acting Assistant Professor, Department of Otolaryngology – Head & Neck Surgery, University of Washington, Seattle, WA  
2016 - Affiliate Faculty, College of Engineering, University of Washington, Seattle, WA  
2017 - 2022 Assistant Professor, Pediatric Otolaryngology, Department of Otolaryngology – Head & Neck Surgery, University of Washington, Seattle, WA  
2022 - Associate Professor, Pediatric Otolaryngology, Department of Otolaryngology – Head & Neck Surgery, University of Washington, Seattle, WA

**5. HOSPITAL POSITIONS HELD**

2016 - Attending Physician, Division of Pediatric Otolaryngology  
Seattle Children’s Hospital, Seattle, WA

**6. CURRENT EMPLOYMENT: N/A**

**7. HONORS**

2011 1st place oral presentation: Slide Tracheoplasty to Repair Congenital Long Segment Tracheal Stenosis. Northwest Academy of Otolaryngology, Fascinating Cases in Otolaryngology. Seattle, WA  
2011 3rd place oral presentation: Adjuvant Tracheotomy for Grizzly Bear Field Laryngopharyngectomy. Northwest Academy of Otolaryngology, Fascinating Cases in Otolaryngology. Seattle, WA

- 2013 The most outstanding clinical research presentation, presented by the American Academy of Facial Plastic and Reconstructive Surgery. Combined Otolaryngology Spring Meeting, Orlando, FL
- 2013 President Elect Award for outstanding poster presentation. Computer Planning in the Research, Analysis and Design of Skull Base Surgical Approaches. American Academy of Otolaryngology, Vancouver, BC, Canada.
- 2013 Resident Leadership Grant Award. American Academy of Otolaryngology—Head and Neck Surgery. Vancouver, BC, Canada.
- 2016 Alberta Corkery Fellowship Travel Award. Preoperative Imaging and Surgical Management of Frontonasal Dermoid Cysts: 15-year Experience at a Pediatric Tertiary Care Center. Combined Otolaryngology Spring Meeting, Chicago, IL
- 2019 Clinical Research Scholars Program Award. Surgical Semantic Atlas to Improve Surgical Planning for Pediatric Cranial Base and Head and Neck Surgery. Center for Clinical and Translational Research, Seattle Children’s Hospital.
- 2020 Triological Society Fellowship. Development of a novel imaging atlas and instrument motion algorithm for computer aided planning and virtual real-time intraoperative CT in sinus and skull base surgery. The Triological Society.
- 2021 Outstanding Research Mentor Award, University of Washington School of Medicine
- 2023 Trachy Award, University of Washington School of Medicine

## 8. BOARD CERTIFICATIONS

- 2016 Diplomate, American Board of Otolaryngology  
2021 Complex Pediatric Otolaryngology, American Board of Otolaryngology

## 9. LICENSURE

- 2016- Washington State Medical License MD 60671186  
2021- Idaho State Medical License MC-1076  
2022- Alaska State Medical License, 199906  
2022- Oregon State Medical License MD213785

## 10. DIVERSITY, EQUITY AND INCLUSION ACTIVITIES

I conduct quantitative research on competitive residency applications related to race, gender, and ethnicity. The goal is to make data transparent to improve the how residencies select applicants. This work is in progress and a manuscript is under review at Journal of Graduate Medical Education on the topic of gender diversity. In daily practice, I am committed to uphold values of inclusion and equity. I am an advocate for promoting diversity in the workplace.

## 11. PROFESSIONAL ORGANIZATIONS

- 2010-present American Academy of Otolaryngology, Member  
2017-present International Society for the Study of Vascular Anomalies, Elected Member  
2017-present American College of Surgeons, Fellow Member

2017-present American Cleft Palate – Craniofacial Association, Member  
 2017-present European Society of Pediatric Otorhinolaryngology, Elected Member  
 2019-present American Society of Pediatric Otolaryngology, Elected Member  
 2019-present International Society for Otitis Media, Appointed Member  
 2017-present North American Skull Base Society, Elected Member  
 2020-present Triological Society, Accepted Member

## 12. TEACHING RESPONSIBILITIES

2016-present Resident teaching, Seattle Children’s Hospital  
 2016-present Clinical teaching, Seattle Children’s Hospital

### A. Fellow Research Mentorship

2016-2017 Ryan Mitchell, MD, PhD  
 2016-2017 Neha Patel, MD  
 2017-2018 Erin Kirkham, MD, MPH  
 2017-2018 Reema Padia, MD  
 2018-2019 Juliana Bonilla-Velez, MD  
 2018-2019 Carrie Liu, MD  
 2019-2020 Sean Evans, MD  
 2019-2020 Prasanth Pattisapu, MD, MPH  
 2020-2021 Jason Park, MD, PhD  
 2020-2022 Clare Richardson, MD  
 2021-2022 Madeleine Drusin, MD  
 2021-2023 Nate Perkins, DO  
 2022-2023 Maxwell Newby, MD  
 2022-2023 Jennifer Siu, MD

### B. Resident Research Mentorship

2016-2019 Anthony Law, MD, PhD  
 2016-2019 Lynn McGrath, MD (Neurosurgery)  
 2018-2021 Sharat Raju, MD  
 2019-2021 Neeraja Konuthula, MD  
 2019-2020 Harrison Cash, MD  
 2019-2020 Emmanuel Jauregui, MD  
 2020-present Ricardo Pulido, MD

### C. Medical Student Research Mentorship

2017-2018 Zachary Hill  
 2017-2018 Edward Callahan  
 2018-2021 Lingga Adidharma  
 2018-2021 Erik Risa  
 2020-present Anand Rajesh

## 13. EDITORIAL RESPONSIBILITIES

2016-present Ad Hoc Reviewer, International Journal Pediatric Otolaryngology  
 2016-present Ad Hoc Reviewer, Laryngoscope  
 2018-present Ad Hoc Reviewer, American Cleft Palate Association

## 14. SPECIAL NATIONAL RESPONSIBILITIES

- 2017-present Co-chair, research subcommittee for Vascular Anomalies Task Force
- 2017-2018 Ad Hoc Reviewer, NIH study section: Bioengineering, Technology, and Surgical Sciences (BTSS), Bethesda, MD.
- 2020-present American Society of Pediatric Otolaryngology, Research Committee member

## 15. SPECIAL LOCAL RESPONSIBILITIES

- 2017-present Vascular Anomalies annual retreat, planning committee member
- 2018 Member, Residency Interview Committee, University of Washington-Department of Otolaryngology-HNS
- 2019-present Surgical Innovations Committee, Continuous Improvement & Innovations, Seattle Children's Hospital
- 2020-present Subcommittee Chair, Engagement with Clinical Institutions Committee, Engineering Innovation in Health External Advisory Board, University of Washington-Department of Mechanical Engineering
- 2020-present Affiliate, Virginia Merrill Bloedel Hearing Research Center (VMBHRC), University of Washington
- 2022-present Center for Clinical & Translational Research, Steering Committee Board Member, Seattle Children's Hospital Research Institute
- 2022-present Hanover Research Support Program, Co-Chair, Center for Clinical and Translational Research, Seattle Children's Research Institute

## 16. RESEARCH FUNDING

### A. Current

- 10/01/22-09/30/23 Seattle Children's Hospital Research Integration Hub Award  
A Program for Translational Medicine Through Engineering Collaborations (\$30,000)  
PI: Randall Bly, MD
- 07/01/20-6/30/25 National Institutes of Dental and Craniofacial Research  
Grant number: U01DE029750  
Velopharyngeal insufficiency following cleft palate repair: a comparative effectiveness study of existing surgical procedures and identification of criteria to guide a personalized treatment approach (\$278,720)  
PI: Thomas Sitzman, MD; Site PI: Randall Bly, MD

### B. Past

- 6/01/21-6/01/22 CoMotion Innovation Gap Fund  
Semi-Automated Method of Editing Surgical Videos (\$50,000)  
PI: Randall Bly, MD
- 3/1/21 – 3/1/22 Washington Research Foundation  
Smartphone-Based Otoacoustic Emission (\$50,000)  
PI: Randall Bly, MD, Shyam Gallokota, PhD
- 2/1/21-2/1/22 Virginia Merrill Bloedel Hearing Research Center  
Smartphone-based Tympanometry (\$10,000)  
PI: Randall Bly, MD, Susan Norton, PhD

- 1/1/20-12/31/21 Global Innovation Fund, Office of Global Affairs  
Towards universal hearing screening for children in Kenya (\$20,000)  
PI: Irene Njuguna and Sarah Benki-Nugent
- 10/2/20-1/31/22 Eigenscope: Smartphone-based Endoscopy  
UW WE-REACH - Washington Entrepreneurial Research Evaluation and  
Commercialization Hub (\$200,000)  
PI: Randall Bly, MD
- 2/04/20-02/04/21 University of Washington OTO Seed Grant  
Multimicroportal Parallax Endoscopy (\$10,000)  
PI: Randall Bly, MD, Kris Moe, MD
- 10/1/19-10/1/21 Clinical Research Scholars Program Award  
Surgical Semantic Atlas to Improve Surgical Planning for Pediatric  
Cranial Base and Head & Neck Surgery (\$147,000)  
PI: Randall Bly, MD
- 1/01/19-09/01/21 Washington Research Foundation  
Smartphone-based Flexible Endoscopy (\$50,000)  
PI: Randall Bly, MD
- 8/30/19-8/30/21 Washington Research Foundation  
Detection of Middle Ear Effusion (\$50,000)  
PI: Randall Bly, MD
- 1/01/19-12/01/21 Washington Research Foundation  
Surgical Instrument Cart (\$50,000)  
PI: Randall Bly, MD, Kris Moe, MD, Blake Hannaford, PhD
- 9/2019-3/2021 Sie-Hatsukami Grant  
Comparing trends in race, ethnicity, and gender diversity of applicants  
and residents between otolaryngology and other specialties (\$2,500)  
PI: Randall Bly, MD, Mark Whipple, MD, Sarah Bowe, MD
- 8/2018 – 8/2019 CoMotion Innovation Award  
Improved Accuracy in Planning Maxillofacial Reconstruction “FlushCut”  
(\$50,000)  
PI: Jeffrey Houlton, MD, Randall Bly, MD
- 12/2018-10/2020 University of Washington OTO Seed Grant  
Virtual Real-Time Intraoperative Computed Tomography by Endoscopic  
Visual Localization and Mapping (SLAM) (\$9,990)  
PI: Randall Bly, MD, Ian Humphreys, DO, Yangming Li, PhD
- 11/2018- 5/2019 Sie-Hatsukami Grant  
Detection of Middle Ear Effusion (\$2,500)  
PI: Randall Bly, MD  
Collaborator: Sharat Raju, MD, Justin Chan

- 6/2017-6/2018 CoMotion Innovation Award  
Smartphone Based Endoscopy for Otolaryngology (\$50,000)  
PI: Randall Bly, MD  
Collaborator: Anthony Law, MD, PhD
- 6/2017-6/2018 Amazon Catalyst Grant  
Smartphone Based Pupillometry (\$25,000)  
PI: Randall Bly, MD, Sam Browd, MD  
Collaborator: Anthony Law, MD, PhD, Lynn McGrath, MD
- 6/2017-6/2018 Washington Research Foundation (WRF)  
Smartphone Based Pupillometry, a Clinical Study (\$50,000)  
PI: Randall Bly, MD, Sam Browd, MD  
Collaborator: Anthony Law, MD, PhD, Lynn McGrath, MD
- 7/2013-7/2014 UWHA Grant Recipient  
Computer Modeled Multiportal Approaches to the Skull Base (\$800)  
PI: Randall A. Bly MD
- 7/2013-7/2014 AAO-HNSF Resident Research Grant  
Computer Modeled Multiportal Approaches to the Skull Base (\$9,735)  
PI: Randall A. Bly MD
- 9/2013-9/2014 Coulter Foundation - Translational Research Grant  
Computer Model for Advanced Pre-Operative Surgical Planning  
(\$100,000)  
PI: Blake Hannaford, PhD and Kris Moe, MD  
Collaborators/Key Personnel: Randall Bly, MD, Howard Chizeck, ScD,  
Manuel Ferreira, MD, PhD, Thomas Lendvay, MD
- 9/2013-9/2015 NIH R21, Grant Number: 1R21EB016122-01A1  
Computer Modeled Multiportal Approaches to the Skull Base (\$271,894)  
PI: Blake Hannaford, PhD and Kris Moe, MD  
Collaborators/Key Personnel: Randall Bly, MD, Howard Chizeck, ScD,  
Manuel Ferreira, MD, PhD Thomas Lendvay, MD

## 17. BIBLIOGRAPHY

### A. Publications in Refereed Journals

1. **RA Bly**, Y Cao, WA Moore and WO Soboyejo. Investigation of the effects of alkane phosphonic acid/RGD coatings on cell spreading and the interfacial strength between human osteosarcoma cells and Ti-6Al-4V. *Materials Science and Engineering: C*. 2007 Jan;27(1):83-9.
2. Cao Y, **Bly R**, Moore W, Gao Z, Cuitino AM, Soboyejo W. Investigation of the viscoelasticity of human osteosarcoma cells using a shear assay method. *Journal of Materials Science: Materials in Medicine*. 2007 Jan;18(1):103-9.

3. **Bly R**, El-Backly R, Chen J, Saad M, AlKhodary M, Fatta M, Moore W, Arnold C, Marei M, Soboyejo W. In-vivo study of adhesion and bone growth around implanted laser groove/RGD-functionalized Ti-6Al-4V pins in rabbit femurs. *Materials Science and Engineering: C*. 2011 31(5): 826-832.
4. **Bly RA**, Su D, Hannaford B, Ferreira M, Moe KS. Computer Modeled Multiportal Approaches to the Skull Base. *Journal of Neurological Surgery: Skull Base*. (2012): 73(06), 415-423. PMID: PMC3578589
5. **Bly RA.**, Chang SH., Cudejkova M., Liu JJ, Moe KS. Computer-Guided Orbital Reconstruction to Improve Outcomes. *JAMA Facial Plastic Surgery*, 15(2), (2013): 113-120. PMID: PMC5951614
6. **Bly RA**, Ramakrishna R, Ferreira M, Moe KS. Lateral Transorbital Neuroendoscopic Approach to the Lateral Cavernous Sinus. *Journal of Neurological Surgery: Skull Base*. (2014); 75(1), 11–17. PMID: PMC3912142
7. **Bly RA**, Bly EG. Consult Courtesy. *Journal of Graduate Medical Education*, 5(3), (2013): 533-534.
8. **Bly RA**, Su D, Lendvay TS, Friedman D, Hannaford B, Ferreira M, Moe KS. Multiportal Robotic Access to the Anterior Cranial Fossa A Surgical and Engineering Feasibility Study. *Otolaryngology--Head and Neck Surgery*, 149.6 (2013): 940-946. PMID: PMC5953425
9. Aghdasi N, Li Y, Berens A, Moe KM, **Bly RA**, Hannaford B. Atlas and feature based 3D pathway visualization enhancement for skull base pre-operative fast planning from head CT. *SPIE Medical Imaging, Proc. International Society for Optics and Photonics*. 9415(19), 2015.
10. **Bly RA**, Morton RP, Kim LJ, Moe KS. Tension Pneumocephalus after Endoscopic Sinus Surgery A Technical Report of Multiportal Endoscopic Skull Base Repair. *Otolaryngology--Head and Neck Surgery*, 151(6), (2014): 1081-1083.
11. Aghdasi N, **Bly RA**, White LW, Hannaford B, Moe KS, Lendvay TS. Crowd-sourced assessment of surgical skills in cricothyrotomy procedure. *Journal of Surgical Research*. 2015 Jun 15;196(2):302-6. PMID: PMC5945282
12. Ramakrishna R, Kim LJ, **Bly RA**, Moe KS, Ferreira M. Transorbital Neuroendoscopic Surgery for the Treatment of Skull Base Lesions. *Journal of Clinical Neuroscience*. 2016 Feb;24:99-104. doi: 10.1016.
13. **Bly RA**, Bhrany AD, Murakami C, Sie K. Microtia Reconstruction. *Facial Plastic Surgery Clinics of North America*. 2016 Nov;24(4):577-591. doi: 10.1016.
14. **Bly RA**, Perkins J, Parikh, SR. Can topical beta blockers reduce the size of superficial infantile hemangiomas of the head and neck? *The Laryngoscope*. 2017 Jan;127(1):4-5. doi: 10.1002.
15. Harbison RA, Berens AM, Li Y, **Bly RA**, Hannaford B, Moe KS. 2016. Region-Specific Objective Signatures of Endoscopic Surgical Instrument Motion: A Cadaveric Exploratory

- Analysis. *Journal of Neurological Surgery Part B: Skull Base*. 2017 Feb;78(1):99-104. doi: 10.1055. PMID: PMC5288115
16. Berens AM, Harbison RA, Li Y, **Bly RA**, Aghdasi N, Ferreira Jr M, Hannaford B, Moe KS. Quantitative Analysis of Transnasal Anterior Skull Base Approach: Report of Technology for Intraoperative Assessment of Instrument Motion. *Surgical Innovation*. 2017 Aug;24(4):405-10. doi: 10.1177/1553350617702307. PMID: 28412879
  17. Harbison RA, Li Y, Berens AM, **Bly RA**, Hannaford B, Moe KS. An Automated Methodology for Assessing Anatomy-Specific Instrument Motion during Endoscopic Endonasal Skull Base Surgery. *Journal of Neurological Surgery Part B: Skull Base*. 2017 Jun;78(03):222-6. PMID: PMC5463410
  18. Li Y, **Bly RA**, Harbison RA, Humphreys IM, Whipple ME, Hannaford B, Moe KS. Anatomical Region Segmentation for Objective Surgical Skill Assessment with Operating Room Motion Data. *Journal of Neurological Surgery Part B: Skull Base*. 2017 Jul 31. PMID: PMC5680032
  19. Patel NA, Perkins JA, **Bly RA**. Vascular Malformations. *Current Otorhinolaryngology Reports*. 2017 Nov 11. Doi: 10.1007/s40136-017-0174-0.
  20. Callahan E, **Bly RA**, Johnson K, Aghdasi N, Hannaford B, Moe K, Sardesai MG. Wrist Motion Variation between Novices and Experienced Surgeons Performing Simulated Airway Surgery. *OTO Open*. 2017 Nov;1(4):2473974X17738959. PMID: PMC6239156
  21. Patel NA, **Bly RA**, Adams S, Carlin K, Parikh SR, Dahl JP, Manning S. A clinical pathway for the postoperative management of hypocalcemia after pediatric thyroidectomy reduces blood draws. *International Journal of Pediatric Otorhinolaryngology*. 2018 Feb 1;105:132-7. PMID: 29447801
  22. **\*Bly RA**, Holdefer RN, Slimp J, Kinney GA, Martinez V, Manning SC, Perkins JA. Preoperative Facial Nerve Mapping to Plan and Guide Pediatric Facial Vascular Anomaly Resection. *JAMA Otolaryngology–Head & Neck Surgery*. 2018 Mar 29. PMID: PMC5876811
  23. Hopper RA, Kapadia HP, Susarla SM, **Bly RA**, Johnson K. Counterclockwise Craniofacial Distraction Osteogenesis (C3DO) for tracheostomy dependent children with Treacher Collins syndrome. *Plast Reconstr Surg*. 2018 Aug 1;142(2):447-57. PMID: 29870506
  24. Montague GL, **Bly RA**, Nadaraja GS, Conrad DE, Parikh SR, Chan DK. Endoscopic percutaneous suture lateralization for neonatal bilateral vocal fold immobility. *International Journal of Pediatric Otorhinolaryngology*. Vol 108, May 2018, pp. 120–124. PMID: 29605340
  25. **\*Aghdasi N**, Whipple M, Humphreys IM, Moe KS, Hannaford B, **Bly RA**. Automated Surgical Approach Planning for Complex Skull Base Targets: Development and Validation of a Cost Function and Semantic Atlas. *Surgical Innovation*. 2018 Jun 1:1553350618782287. PMID: 29947581
  26. Padia R, **Bly RA**, Bull C, Geddis AE, Perkins J. Medical Management of Vascular Anomalies. *Current Treatment Options in Pediatrics*. 2018 Jun;4:221-36. PMID: PMC6261360

27. Coppess S, Padia R, Horn D, Parikh SR, Inglis A, **Bly RA**, Dahl J, Dudley D, Johnson K. Standardizing Laryngeal Cleft Evaluations: Reliability of the Interarytenoid Assessment Protocol. *Otolaryngology–Head and Neck Surgery*. 2018 Oct 16;0194599818806283. PMID: 30322357
28. Miller C, Manning S, **Bly RA**. Surgical management of nasal dermoid lesions. *Operative Techniques in Otolaryngology-Head and Neck Surgery*. 2019 Mar 1;30(1):16-21.
29. \*Whipple ME, Law AB, **Bly RA**. A Computer Simulation Model to Analyze the Application Process for Competitive Residency Programs. *Journal of Graduate Medical Education*. 2019 Jan 8. PMID: PMC6375320
30. Miller C, **Bly RA**, Cofer S, Dahl JP, de Serres L, Goudy S, Hartzell L, Jabbour N, Kacmarynski D, Macarthur C, Messner A, Milczuk H, Rastatter J, Swibel Rosenthal LH, Scott A, Tollefson T, Woolley A, Zdanski C, Zopf DA, Sie K. Multicenter Interrater Reliability in the Endoscopic Assessment of Velopharyngeal Function Using a Video Instruction Tool., *Otolaryngol Head Neck Surg* 2019 Jan. PMID: 30642231
31. Moe KS, **Bly RA**. Commentary: A comparative analysis of the exposure and surgical freedom of the endoscopic extended minipterional craniotomy and the transorbital endoscopic approach to the anterior and middle cranial fossae: a cadaveric investigation? *Operative Neurosurgery*. 2019 Feb 15. pii: opy371. doi: 10.1093/ons/opy371. PMID: 30768129
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33. Saxena RC, Friedman S, **Bly RA**, Otjen J, Alessio A, Li Y, Hannaford B, Whipple M, Moe KS. Surgical Planning in Rhinoplasty: Visualization of Nasal Cartilage on Micro-CT and Clinical CT Protocols. *JAMA – Facial Plastic Surgery*. 2019 Feb 7. doi: 10.1001/jamafacial.2018.193. PMID: 30730533
34. Zenner K, Dahl J, Deutsch G, Rudzinski E, **Bly R**, Perkins JA. Metastatic cellular neurothekeoma in childhood. *International journal of pediatric otorhinolaryngology*. 2019 Jan 22;119:86. PMID: 30685663
35. \***Bly RA**, Berens AM, Perkins JA, Miller C, Ferreira Jr M, Hauptman JS, Moe KS. *Surgical planning in pediatric skull base surgery*. *Operative Techniques in Otolaryngology-Head and Neck Surgery*. 2019 Mar 1;30(1):9-15. <https://doi.org/10.1016/j.otot.2019.01.005>
36. Chan J, Raju S, Nandakumar R, **Bly RA**, Gollakota S. Detecting middle ear fluid using smartphones. *Science Translational Medicine*. 15 May 2019. PMID: 31092691
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38. Lin S, Qin F, **Bly RA**, Moe KS, Hannaford B. *Automatic Sinus Surgery Skill Assessment Based*

- on Instrument Segmentation and Tracking in Endoscopic Video*. In International Workshop on Multiscale Multimodal Medical Imaging 2019 Oct 13 (pp. 93-100). Springer, Cham.
39. Adidharma L, **Bly RA**, Theeuwens HA, Holdefer RN, Slimp J, Kinney GA, Martinez V, Whitlock KB, Perkins JA. *Facial Nerve Branching Patterns Vary with Vascular Anomalies*. *The Laryngoscope*. 2019 Dec 11. PMID: 31925962
40. Lin S, Gu X, **Bly RA**, Moe KS, Hannaford B. *Video-based automatic and objective endoscopic sinus surgery skill assessment*. In *Medical Imaging 2020: Image-Guided Procedures, Robotic Interventions, and Modeling* 2020 Mar 16 (Vol. 11315, p. 113152L). International Society for Optics and Photonics.
41. Zenner K, Bonilla-Velez J, Johnson K, **Bly RA**. Slide Tracheoplasty to Repair Stenotic Tracheal Cartilaginous Sleeve with Advanced Surgical Planning. *Otolaryngology–Head and Neck Surgery*. 2020 Apr 14:0194599820915469. PMID: PMC7980779
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43. Wenger TL, **Bly RA**, Wu N, Albert CM, Park J, Shieh J, Chenbhanich J, Heike CL, Adam MP, Chang I, Sun A. *Activating variants in PDGFRB result in a spectrum of disorders responsive to imatinib monotherapy*. *American Journal of Medical Genetics Part A*. 2020 Jun 5. PMID: 32500973
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45. Qin F, Lin S, Li Y, **Bly RA**, Moe KS, Hannaford B. *Towards Better Surgical Instrument Segmentation in Endoscopic Vision: Multi-Angle Feature Aggregation and Contour Supervision*. *IEEE Robotics and Automation Letters*. 2020 Jul 14;5(4):6639-46.
46. Cash H, **Bly RA**, Masco V, Dighe M, Cheng E, Delaney S, Ma K, Perkins JA. *Prenatal Imaging Findings Predict Obstructive Fetal Airways Requiring EXIT*. *The Laryngoscope*. 2020 Aug 8. PMID: 32770766
47. Lin S, Qin F, Li Y, **Bly RA**, Moe KS, Hannaford B. *Image-to-image Translation Based on Generative Adversarial Network for Endoscopic Images*. In Press, *IEEE Robotics and Automation Letters (RA-L)*, 2020.
48. Miller C, **Bly RA**, Moe KS. *Endoscopic Orbital and Periorbital Approaches in Minimally Disruptive Skull Base Surgery*. *Journal of Neurological Surgery Part B: Skull Base*. 2020 Aug 24. DOI: 10.1055/s-0040-1713900. PMID: PMC7561459
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54. Miller DE, Wright J, **Bly RA**, Weiss EM, Susarla S, Wenger TL. *Seizures in a Neonate*. NeoReviews. 2021 May 1;22(5):e335-8.
55. \*Konuthula N, Perez F, Maga A, Abuzeid W, Moe KS, Hannaford B, **Bly RA**. *Automated atlas-based segmentation for skull base surgical planning*. International Journal of Computer Assisted Radiology and Surgery. 2021; May 19:1-9. PMID: 34009539
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#### I. Patents

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11. S Raju, S Gollakota, J Chan, **R Bly**, R Nandakumar. System and Method for Detection of Middle Ear Fluids. US Patent, U.S. Provisional Application Serial No. PCT/US2019/050083 filed September 6, 2019.
12. A Law, A Berens, M Miyasaka, **R Bly**. Phone Adapter for Flexible Laryngoscope and Rigid Endoscopes. US Patent, U.S. Provisional Application Serial No. 10,499,792 issued December 10, 2019.
13. McGrath LB, Law A, **Bly R**, Patel SN, Mariakakis AT, Baudin J, inventors; University of Washington, assignee. Smartphone-based digital pupillometer. United States patent application US 16/618,044. 2020 Apr 30.
14. **Bly R**, Hannaford B, inventors; University of Washington, assignee. Methods and systems for selecting surgical approaches. United States patent US 10,416,624. 2019 Sep 17.
15. Chen E, Kim A, Lam C, Hannaford B, **Bly RA**, Ciporen J, Moe K, Kim L, Sekhar L, inventors; SPIWAY LLC, assignee. Surgical tissue protection sheath. United States patent US 10,470,647. 2019 Nov 12.
16. Adidharma L, **Bly RA**, Yang Z, Young C, Li Y, Hannaford B, Humphreys I, Abuzeid W, Ferreira M, Moe KS, King D. Method for Classifying Images. Provisional Patent Application No. 63/149,042, filed February 12, 2021.
17. Adidharma L, **Bly RA**, Yang Z, Young C, Li Y, Hannaford B, Humphreys I, Abuzeid W, Ferreira M, Moe KS, King D. Method for Classifying Images/Automated Method for Editing Surgical Videos. Patent Application No. 17/670,082, filed on February 11, 2022.
18. McGrath LB, Law A, **Bly R**, Patel SN, Mariakakis AT, Baudin J, inventors; University of Washington, assignee. Smartphone-based digital pupillometer. United States Patent 11647903. 2023 May 16.

## 18. INVITED TALKS

### a) National/international

- 2007 In-vivo study of adhesion and bone growth around implanted laser groove/RGD-functionalized Ti-6Al-4V pins in rabbit femurs. US/Africa Workshop on Frontiers in Materials Research and Education. Abuja, Nigeria, January 2007.
- 2012 Computer Modeled Multiportal Approaches to the Skull Base. 5th World Congress for Endoscopic Surgery of the Brain, Skull Base, and Spine, Vienna, Austria, Mar 29-Apr 1, 2012
- 2016 Evidence Based Treatment for Vascular Anomalies; Venous Malformations. Combined Otolaryngology Spring Meeting, May 18-20, 2016, Chicago, IL.
- 2017 Robotics in Skull Base Surgery. International Conference on Intelligent Robots and Systems, Vancouver, British Columbia, September 24, 2017.
- 2018 Pre-operative percutaneous n-BCA glue embolization of truncal and extremity venous malformations: technique, safety, and clinical outcomes. 22nd International Workshop on Vascular Anomalies, Amsterdam, Netherlands, June 1, 2018.
- 2018 Improved Outcomes of Periocular Infantile Hemangiomas Treated with Propranolol. 22nd International Workshop on Vascular Anomalies, Amsterdam, Netherlands, May 29-June 1, 2018.

- 2018 Endoscopic Surgical Approaches to Manage Skull Base Vascular Anomalies. 22nd International Workshop on Vascular Anomalies, Amsterdam, Netherlands, May 29-June 1, 2018.
- 2018 Glue Embolization and Facial Nerve Mapping in the treatment of cervicofacial vascular anomalies. European Society of Pediatric Otolaryngology 2018 Professorial Update on Vascular Anomalies, Stockholm, Sweden. June 2018.
- 2018 Pediatric Sinonasal Skull Base Tumors. American Society of Pediatric Otolaryngology, Frontiers in Pediatric Otolaryngology. Vail, Colorado. June 17, 2018.
- 2018 Novel Imaging Techniques in Pediatric Otolaryngology. American Society of Pediatric Otolaryngology, Frontiers in Pediatric Otolaryngology. Vail, Colorado. June 17, 2018.
- 2019 Novel Surgical Approaches to Vascular Anomalies. Northwest Academy of Otolaryngology. Winter Meeting. Whistler, BC. January 13, 2019.
- 2019 Pediatric Cranial Base Surgical Approach Planning. June 8, 2019. Rhinoworld. Chicago, IL
- 2019 A Computer Simulation Model to Analyze the Application Process for Competitive Residency Programs. Society of University Otolaryngologists, Combined Meeting. November 22, 2019. Chicago, IL.
- 2020 Pediatric Otolaryngology. Northwest Academy of Otolaryngology, Winter Meeting. January 9-12, 2020. Whistler, BC.
- 2020 Juvenile Nasopharyngeal Angiofibroma. April 13, 2020. Pediatric Otolaryngology Fellowship national didactics.
- 2021 Surgical Management of Velopharyngeal Insufficiency (VPI) in Patients with 22q11.2 Deletion Syndrome. May 1, 2021. American Cleft Palate Association, Annual Meeting.
- 2021 Diagnosis Panel Moderator. 21st International Symposium on Recent Advances in Otitis Media. June 11, 2021. London, UK.
- 2022 Transforming Lives: Management of Hearing Loss Associated with Cleft Lip/Palate and Other Craniofacial Conditions. myFace Transforming Lives Webinar. October 13, 2022.
- 2023 All About Tonsillectomy: Failures, Pain Control. Northwest Academy of Otolaryngology. Winter Meeting. Whistler, BC. January 2023.
- 2023 Posterior Tongue Tie – To Cut or Not to Cut. Northwest Academy of Otolaryngology. Winter Meeting. Whistler, BC. January 2023.
- 2023 Endoscopic Paramaxillary Approach to the Infratemporal Fossa and Pterygomaxillary Space: Computer Modeling Analysis and Clinical Series. ERS2023. Sofia, Bulgaria. June 2023.
- 2023 Management of Pediatric Acute Rhinosinusitis with Orbital Complications. ERS2023. Sofia, Bulgaria. June 2023.

b) Regional

- 2017 Managing the Young Child with Chronic Nasal Discharge. 2017 Annual Pediatric Otolaryngology Update Meeting for Primary Care. Seattle Children's Hospital.
- 2017 Navigation and Technology in Sinus Surgery. November 15, 2017. Leslie Watson Sinus Surgery Course, Harborview Medical Center.
- 2018 Image Navigation in Sinus Surgery. November 14, 2018. Lesley Watson Rhinology Surgical Training Course, Harborview Medical Center. November 14, 2018.
- 2019 Course instructor, 4th Annual Northwest Airway Course. May 17, 2019.

- 2019 A clinical pathway for the postoperative management of hypocalcemia after pediatric thyroidectomy reduces blood draws. 2019 Pediatric Thyroid Symposium. August 16, 2019. Seattle Children's Hospital.
- 2019 Pediatric Neck Masses: Diagnosis and Management. Current Management Techniques in Otolaryngology and Otolaryngology. November 2, 2019. Virginia Mason Hospital.
- 2019 Image Navigation in Sinus Surgery. November 20, 2019. Lesley Watson Rhinology Surgical Simulation Course, Harborview Medical Center.
- 2020 Image Navigation in Sinus Surgery. November 20, 2020. Lesley Watson Rhinology Surgical Training Course, Harborview Medical Center.
- 2022 Invited Speaker at the WWAMI Region Practice and Research Network (WPRN) Annual Conference. Workshop: Expanding innovation development with the WPRN. University of Washington Institute of Translational Health Sciences. May 18, 2022.

c) Local

- 2016 Prenatal Diagnosis and EXIT Procedure for Vascular Anomalies. Vascular Anomaly Retreat. Seattle Children's Hospital.
- 2017 Vascular Anomaly Management in the Neonate. NICU Fellow Didactics
- 2017 Computer Model for Advanced Surgical Planning. November 2, 2017. Grand Rounds, Seattle Children's Hospital.
- 2017 Advanced Surgical Planning and 3D Printing for Vascular Anomaly Treatment. November 29, 2017. Vascular Anomaly Retreat. Seattle Children's Hospital.
- 2017 Airway Evaluation and Management in Treacher Collins Syndrome. Dec 4, 2017. Craniofacial Retreat, University of Washington.
- 2018 Pediatric Skull Base Pathology. April 18, 2018. Grand Rounds, University of Washington.
- 2020 Leadership in Otolaryngology. March 2, 2020. Seattle Children's Hospital, resident and fellow didactics.
- 2020 Instrumental Evaluation of Velopharyngeal Function. March 17, 2020. Seattle Children's Hospital, resident and fellow didactics.
- 2020 Neonatal Vascular Malformations. March 17, 2020. Seattle Children's Hospital/University of Washington, resident and fellow didactics.
- 2020 Congenital Nasal Lesions. April 7, 2020. Seattle Children's Hospital, resident and fellow didactics.
- 2020 Automated skull base segmentation with atlas-based segmentation. Center for Clinical and Translational Research (CCTR) Science Day. May 11, 2020. Seattle Children's Hospital.
- 2021 Invited Panelist at the Korean Startup Center (KSC) / IX Pitch Event for biotechnology companies, August 25, 2021.
- 2022 Invited Speaker at the Youth Global Health and Innovation Conference. University of Washington. June 22, 2022.
- 2022 Image Navigation in Sinus Surgery. November 16, 2022. Lesley Watson Rhinology Surgical Training Course, WISH Laboratory.
- 2023 Neonatal Vascular Malformations. NICU Fellow Didactics. Seattle Children's Hospital. January 17, 2023.