

RAJ M. VYAS, MD FACS

Mobile: (310) 254-7518
rajv1@hs.uci.edu
rajvyas@gmail.com



EDUCATION, TRAINING & APPOINTMENTS

- 10/2015 – Present Department of Plastic Surgery, UC Irvine School of Medicine, Irvine, CA
- Vice-Chairman: 11/2017 – Present
 - HS Clinical Professor of Plastic Surgery: 7/2021– Present
 - HS Clinical Professor of Neurological Surgery: 3/2023 -- Present
 - HS Associate Clinical Professor of Plastic Surgery: 7/2016 – 6/2021
 - Program Director, UCI/CHOC Craniofacial & Pediatric Plastic Surgery Fellowship: Jan 2023 – Present
 - Co-Director, UCI/Global Smile Foundation (GSF) Int'l Research Fellowship: 6/2021 – Present
 - Director of Clinical Research: 10/2015 – 4/2022
 - Faculty Innovation Fellow, UCI Beall Institute for Applied Innovation: 1/2021-12/2022
 - UCI Health Leadership Program for Senior Leaders: 8/2021 – 1/2022
- 12/2014 – Present CHOC Children's Hospital, Orange, CA
- Chief, Division of Plastic Surgery: 7/2019 – Present
 - CHOC Physician Leadership Program, UCI Paul Merage School of Business: 9/2016 – 4/2017
- 9/2014 – 11/2017 UC Riverside School of Medicine, Riverside, CA
- Chief of Plastic & Reconstructive Surgery, UCR Health
 - Director of Cleft, Craniofacial, and Pediatric Plastic Surgery
 - Director, Clinically Applied Anatomy, Human Gross Anatomy
 - HS Associate Clinical Professor of Plastic Surgery: 7/2016 – 11/2017
 - HS Assistant Clinical Professor of Plastic Surgery: 9/2014 – 6/2016
- 7/2013 – 6/2014 Institute of Reconstructive Plastic Surgery (IRPS), New York University Medical School, New York, NY
- Fellowship, Craniofacial Surgery
 - Clinical Instructor
- 6/2007 – 6/2013 Harvard Combined Plastic Surgery Residency Program, Boston, MA
- 8/2003 – 6/2007 David Geffen School of Medicine at UCLA, Los Angeles, CA
- *Doctor of Medicine (M.D.)*
 - President, Alpha Omega Alpha

- 9/1999 – 6/2003 Stanford University, Stanford, CA
- *Bachelor of Science (B.S.)* in Biology with Honors & Distinction
 - Minor in Economics
 - Tutorial in Human Disease Genetics, Wellcome Trust Centre, Oxford University, U.K.: 9/2001-12/2001

HONORS AND AWARDS:

- 8/2022 2023 Physician of Excellence, Orange County Medical Association (OCMA)
- 7/2022 Arnold Huddart Medal for “research describing a previously undiscovered finding in human anatomy and its relevance for cleft repair,” Craniofacial Society of Great Britain & Ireland. Awarded July 15, 2022 at 14th International Cleft Congress, Edinburgh, Scotland.
- 1/2022 Graduate, UCI Health Leadership Success Program for Senior Leaders
- 8/2021 2022 Physician of Excellence, Orange County Medical Association (OCMA)
- 12/2020 Faculty Innovation Fellow, UC Irvine Beall Inst for Applied Innovation (\$5,000)
- 8/2020 2021 Physician of Excellence, Orange County Medical Association (OCMA)
- 6/2020 Teaching Award for Outstanding Surgery Instructor, UC Riverside School of Medicine
- 6/2020 2019-2020 “Best Case,” UC Irvine Department of Plastic Surgery
- 6/2020 2019-2020 “Best Save,” UC Irvine Department of Plastic Surgery
- 10/2019 Fellowship, American College of Surgeons
- 10/2017 CRANIO Scholarship, American Society of Maxillofacial Surgeons (\$5,000)
- 9/2016 Graduate, Physician Leadership Program, CHOC Children’s Hospital and UCI Paul Merage School of Business
- 10/2012 Best Abstract, 33rd Annual Meeting of the Indian Medical Association of Southern California (IMASC)
- 10/2007 Merck Research Scholarship Award, American Society of Maxillofacial Surgeons (\$2500)
- 6/2007 Stafford L. Warren Medal: Most Outstanding Medical Student, UCLA Class of 2007
- 6/2007 The Longmire Medal: Most Outstanding Medical Student in Surgery, UCLA Class of 2007
- 6/2007 Louis Jolyon West Award for Excellence: Most Outstanding Medical Student in Psychiatry, UCLA Class of 2007

- 6/2006 Alpha Omega Alpha (AOA) Medical Honor Society: Co-President, Class of 2007 and one of two Junior AOA (MS3) inductees
- 7/05-6/06 *Letter of Distinction* (top 5%) in 6 of 8 Clinical Clerkships: Surgery, OB-GYN, Pediatrics, Psychiatry, Neurology, and Ambulatory Medicine, UCLA School of Medicine
- 8/03-6/05 *Letter of Distinction* (top 5%) in 6 of 8 Pre-Clinical Blocks, UCLA School of Medicine
- 4/2006 “Top 5 Abstract,” 2006 Aortic Surgery Symposium
- 11/2004 Community Leadership Award, American Assn of Physicians of Indian Descent (AAPI)
- 6/2003 Distinction (top 5%) and Honors (thesis) with *B.S.* in Biology, Stanford University
- 3/2003 Keynote Presentation & Outstanding Young Investigator Award, 2003 Meeting of the International Union Against Tuberculosis and Lung Disease Conference (IUATLD)
- 9/2000 Stanford President's Award for Academic Excellence in Freshman Year (60 per class)

GRANT SUPPORT

- 1/2023 – 12/2023 **Principal Investigator**
Co-PI, Dr. Lohrasb Sayadi, PGY-4, UCI Dept of Plastic Surgery
Maxillofacial Surgeons Foundation (MSF) & American Society of Maxillofacial Surgeons (ASMS) 2022-2023 Research Grant
Awarded Amount: \$4750
“Harnessing Artificial Intelligence for Autonomously Placing Cleft Repair Markings”
- 1/2020 – 6/2023 **Principal Investigator**, UCI Sub-award
NCE x 2 (COVID) Co-PI: Huinan Liu, PhD, Professor of Bioengineering, UC Riverside
National Institute of Health (NIH) R03 Small Grant
National Institute of Dental & Craniofacial Research
Awarded Amount: \$200,000
“Nutrient Derived Alloys with Nanostructured Surfaces for Distraction Osteogenesis of the Craniofacial Skeleton”
- 6/2020 – 6/2021 **Faculty PI** for James Hu, MS2
2020 AOA Carolyn L. Kuckein Student Research Fellowship
Amount Awarded: \$5,000
“Harnessing Machine Learning to Personalize Cleft Lip Markings.”
- 6/2020 – 9/2020 **Faculty PI** for SURP Fellow Qilong Zhangli
UCI Summer Undergraduate Research Program (SURP) Grant
Amount Awarded: \$1500
“Harnessing Machine Learning to Personalize Cleft Lip Markings.”

- 6/2020 – 9/2020 **Faculty PI** for Christine Grabar, MS2
UCI School of Medicine Dean’s Summer Research Fellowship Grant
Amount Awarded: \$4000
“Implementation of an ERAS Protocol in Cleft Palate Surgery”
- 7/2019 - 7/2020 **Principal Investigator**
Plastic Surgery Foundation (PSF)/American Society of Plastic Surgeons (ASPS)
Breast Reconstruction Awareness Fund Public Awareness Award
Awarded Amount: \$5,765
“Use of iBook with Clinical Consultation to Educate Patients about Options for Breast Cancer Reconstruction”
- 10/2016 – 8/2018 **Co-Investigator**, UCR Sub-award
PI, UCR Sub-award: Huinan Liu, PhD, Professor of Bioengineering, UC Riverside
National Institute of Health (NIH) SBIR Phase II with N2 Biomedical (SBO)
National Institute of Dental & Craniofacial Research (NIDCR 2R44DE023287)
Awarded Amount: \$200,000
“Antimicrobial Biodegradable Bone Implant for Craniofacial/Maxillofacial Application”
- 7/2015 – 6/2017 **Principal Investigator**
Plastic Surgery Foundation (PSF) Pilot Research Grant
Awarded Amount: \$10,000
“Augmented Reality to Remotely Teach International Cleft Surgery”
- 7/2015 – 6/2017 **Principal Investigator**
Cleft Palate Foundation (CPF) Clinical Research Grant
Awarded Amount: \$5,000
“Using Augmented Reality to Remotely Build Overseas Cleft Capacity and Sustainability”
- 9/2012 – 5/2013 **Principal Investigator**
International Health Studies Grant, Massachusetts Medical Society & Alliance Charitable Foundation (\$2,000)
“Emergency Responsiveness During Overseas Outreach”
- 9/2009 – 9/2010 **Principal Investigator**
Global and Humanitarian Health Travel Scholarship, Partners in Health Center of Expertise (\$2,000)
“Optimizing Resource Utilization During Overseas Outreach”
- 8/2006 – 6/2007 UCLA School of Medicine Research Scholarship (\$10,000; 4 per class)
- 6/2004 – 9/2004 UCLA Short-Term Training Project Summer Research Grant (\$4,500)
- 6/2002 – 6/2003 Howard Hughes Medical Institute Research Grant (\$5,000)

9/2001 – 3/2002 Stanford Undergraduate Research Opportunities Grant (\$3,500)

COMMITTEE, ORGANIZATIONAL, AND VOLUNTEER SERVICE

- 6/2023 – 6/2024 Program Committee, 74rd Meeting of the California Society of Plastic Surgeons (CSPS). Carlsbad, CA. June 2024.
- 10/2022 – 9/2023 Program Committee, International Society of Craniofacial Surgeons (ISCFS)
- 10/2022 – 9/2023 Nominating Committee, American Society of Maxillofacial Surgeons (ASMS)
- 10/2022 – 10/2023 Program Chair (Co-Chair Joseph Losee), 6th International Comprehensive Cleft Care Workshop (CCCW), Barcelona, Spain. October 10-13, 2023.
- 10/2022 – Present Global Care Special Interest Group, American Cleft Palate-Craniofacial Association (ACPA)
- 9/2022 – 9/2023 Chair (Co-Chair, Samuel Browd), Pre-Congress Symposium: Artificial Intelligence and Extended Reality: The Future of Craniofacial Surgery. 20th International Congress of the International Society of Craniofacial Surgeons (ISCFS). Seattle, WA. Sept 5, 2023.
- 8/2022 – Present Technology Committee, American Association of Plastic Surgeons (AAPS)
- 6/2022 – Present Diversity Equity and Inclusion (DEI) Committee, American Council of Academic Plastic Surgeons (ACAPS)
- 6/2022 – 5/2023 Program Committee, 73rd Meeting of the California Society of Plastic Surgeons (CSPS). San Francisco, CA. May 26-28, 2023.
- 3/2022 – Present Chief Medical Adviser, Summit Technology Laboratory (STL)
- 10/2021 – 10/2022 Program Chair (Co-Chair Joseph Losee), 5th International Comprehensive Cleft Care Workshop (CCCW), Rio de Janeiro, Brazil. October 11-14, 2022.
- 9/2021 – Present Technology, Innovation, Disruption & Entrepreneurial (TIDE) Committee, American Society of Plastic Surgeons (ASPS)
- 8/2021 – Present Global Health Committee, American Council of Academic Plastic Surgeons (ACAPS)
- 7/2021 – Present Health Sciences Mentoring Committee (Research Subcommittee), UC Irvine School of Medicine

- 1/2021 – Present Co-Director of Research, Surgeons in Humanitarian Alliance for Reconstruction, Research and Education (SHARE), Plastic Surgery Foundation (PSF) and American Society of Plastic Surgeons (ASPS)
- 10/2020 – 10/2021 Curriculum Chair for Surgery, 4th International Comprehensive Cleft Care Workshop (CCCW), Istanbul, Turkey (October 2021)
- 1/2021 – 1/2024 Medical Staff Performance Committee (MSPC), CHOC Children’s Hospital (paid)
- 9/2020 – Present International Scholar Sub-Committee, American Society of Plastic Surgeons (ASPS); Vice-Chair (10/2023-10/2024).
- 9/2020 – Present Volunteers in Plastic Surgery (VIPS) Steering Committee, Plastic Surgery Foundation (PSF) and American Society of Plastic Surgeons (ASPS)
- 9/2020 – Present International Sub-Committee, American College of Surgeons (ACS) Committee on Global Engagement through Operation Giving Back (OGB)
- 8/2020 – Present Resident-Faculty-Staff Ombudsman, UC Irvine Department of Plastic Surgery
- 7/2020 – Present Chair, Diversity Equity and Inclusion Leadership Council, UC Irvine Department of Plastic Surgery
- 7/2020 – Present Plastic and Craniofacial Surgery Southwest Tower Design Phase Workgroup, CHOC Children’s Hospital
- 6/2020 – Present 22q11 Family Resource Publication Development Team, American Cleft Palate-Craniofacial Association (ACPA)
- 5/2020 – Present 22q11 Special Interest Group, American Cleft Palate-Craniofacial Association (ACPA)
- 1/2020 – 12/2022 Honors & Awards Selection Committee, American Cleft Palate-Craniofacial Association (ACPA)
- 1/2020 – Present Surgical Performance Improvement and Patient Safety Committee (PIPS), CHOC Children’s Hospital
- 1/2020 – Present Perioperative Care Committee, CHOC Children’s Hospital
- 11/2019 – Present Grant Reviewer, UCI Institute for Clinical & Translational Science (ICTS)
- 10/2019 – Present Micrognathia Steering Committee, National Children’s Hospitals Neonatal Consortium (CHNC)
- 10/2019 – 10/2020 Program Committee, 3rd International Comprehensive Cleft Care Workshop (CCCW), Chennai, India (October 2020)

- 9/2019 – Present Legislative Advocacy Committee, American Society of Plastic Surgeons (ASPS), Congenital Anomalies Expert Subcommittee (9/2020 – Present)
- 9/2019 – 9/2023 Ethics Special Interest Group, American Cleft Palate-Craniofacial Association (ACPA)
- 6/2019 – 3/2020 Neurosurgery Chair Search Committee, CHOC Children’s Hospital
- 6/2019 – 2/2020 Dermatology Chair Search Committee, UC Irvine School of Medicine
- 5/2019 – 6/2020 Regenerative Medicine Committee, UC Irvine School of Medicine
- 1/2019 – 6/2023 Acute Care Committee, CHOC Children’s Hospital
- 10/2018 – 10/2019 Program Committee, 2nd International Comprehensive Cleft Care Workshop (CCCW), Lima, Peru (October 2019)
- 9/2018 – Present Annual Meeting Educational Program Committee, American Society of Plastic Surgeons (ASPS)
- 4/2018 – 2/2021 Medical Innovation Institute (MII), Institute for Clinical and Translational Sciences (ICTS), UC Irvine School of Medicine
- 11/2017 – Present Program Evaluation Committee, Plastic Surgery Integrated Residency, UC Irvine Department of Plastic Surgery
- 11/2017 – Present Chair, Clinical Competency Committee, Plastic Surgery Integrated Residency, UC Irvine Department of Plastic Surgery
- 1/2017 – 1/2020 Oncology Committee, CHOC Children’s Hospital
- 1/2017 – 1/2019 Medical-Surgical Committee, CHOC Children’s Hospital
- 10/2015 – Present Director, Pediatric Airway Obstruction Team, CHOC Children’s Hospital
- 4/2008 – Present Global Smile Foundation –501(c)(3) dedicated to overseas cleft outreach
 - Member, Medical Advisory Board (June 2022 – Present)
 - Co-Director, International Research Fellowship (6/2021 – Present)
 - Chair, Research Committee, (6/2020 – Present)
 - Director of Global Health Research (7/2009 – 2/2017)
 - Resident/Fellow Liaison (7/2011 – 6/2014)
 - Director of Community Outreach (7/2009 – 7/2011)

- 9/2016 – 1/2019 Riverside Community Hospital
- Vice-Chairman, Plastic Surgery Section
 - Member, Medical Staff Quality Review Committee
- 11/2014 – 11/2017 Clinical Advisor/Student Design, University of California Riverside Virtual School of Medicine Project Team
- 9/2008 – 6/2014 Research Lead, Partners in Health, Rwanda – International 501(c)(3) dedicated to global health delivery; Research: development of non-electric negative pressure wound therapy device (phase I trial complete)
- 2/2010 – 6/2014 Not Another App!, Inc. – Technology startup producing mobile application connecting social business establishments to customers via dynamic, interactive music selection and live social interchange
- Co-CEO and Co-Founder
 - VP, Business Development
- 5/2009 – 6/2013 Mentor and Big Brother, Big Brothers Big Sisters of Massachusetts Bay
- 7/2012 – 6/2013 Resident Representative, Sub-Committee on Evaluation & Feedback, Education Committee, Harvard Medical School
- 3/2006 – 3/2007 Co-President, UCLA Chapter of Alpha Omega Alpha (ΑΩΑ)
- 6/2005 – 6/2007 UCLA Representative, Western Student’s Medical Research Forum (WSMRF)
- 9/2005 – 6/2007 Student Representative, UCLA Medical School Admissions Committee
- 12/2003 – 6/2005 Vice-President, UCLA Chapter of Unite for Sight
- 9/2003 – 6/2005 Co-Chair & Medical School Representative, UCLA South Asian Health Association
- 9/2003 – 9/2005 Political Action Committee Representative, UCLA Chapter of American Medical Association

EDITORIAL POSITIONS

- 03/2022 – Present Section Editor, Plastic Surgery, *Cleft Palate Craniofacial Journal*
- 9/2020 – Present Editorial Board, Head & Neck Surgery, *Annals of Plastic Surgery*
- 11/2018 – 03/2022 Reviewer, *Cleft Palate Craniofacial Journal*
- 10/2012 – 1/2019 Reviewer (Craniofacial), *Plastic and Reconstructive Surgery*

5/2013 – 1/2018 Reviewer, *Journal of Reconstructive Microsurgery*

7/2001 – 6/2003 Reviewer (Neuroscience and Developmental Biology), *The Stanford Biologist*

PRESENTATIONS

National/International Meetings

1. Jefferis GSXE, **Vyas RM**, Marin EC, Komiyama T, Zhu H, Stocker RF, Luo L. Wiring Specificity in the Olfactory System of *Drosophila* (Oral). Molecular and Cellular Neurobiology Gordon Conference, Hong Kong, China. June, 2002.
2. Jefferis GSXE, **Vyas RM**, Marin EC, Stocker RF, Luo L. Wiring Specificity in the Olfactory System of *Drosophila* (Oral). European *Drosophila* Neurobiology Conference, Dijon, France. September, 2002.
3. **Vyas RM**, DeRiemer K, Small PM. The Private-Public Divide: A Roadblock to Effective Tuberculosis Management in India (Oral, Keynote Presentation and Conference Young Investigator Award). International Union Against Tuberculosis & Lung Disease International Conference, Vancouver, Canada. March, 2003.
4. Marin EC, Jefferis GSXE, **Vyas RM**, Komiyama T, Zhu H, Stocker RF, Luo L. From Olfaction to Memory: The Genetics of Wiring Specificity in the Olfactory System of *Drosophila* (Oral). Genetics Society Spring Meeting, Warwick, United Kingdom. March, 2003.
5. Jefferis GSXE, **Vyas RM**, Marin EC, Komiyama T, Zhu H, Stocker RF, Luo L. Wiring Specificity in the Olfactory System of *Drosophila* (Oral). Gordon Conference on the Chemical Senses, New London, NH. July, 2003.
6. Jefferis GSXE, **Vyas RM**, Marin EC, Komiyama T, Zhu H, Stocker RF, Luo L. Wiring Specificity in the Olfactory System of *Drosophila* (Oral, Prize Lecture). Neurobiology of *Drosophila* Conference, Cold Spring Harbor, NY. October, 2003.
7. Cohen O, Odum J, **Vyas RM**, Ukatu C, Palatnik K, De la Zerda D, Laks H. Twenty Year Experience with Dacron Mesh Wrap Remodeling Technique for Definitive Treatment of the Dilated Ascending Aorta (Oral, Top 5 Abstract). Aortic Surgery Symposium X, New York, NY. April, 2006.
8. **Vyas RM**, Dipple K, Head C, Wald S, Wasson KL, Gabbay JS, Bradley JP. Management of Neonatal Upper Airway Obstruction: Decreased Morbidity Utilizing a Decision Tree Model with Mandibular Distraction Osteogenesis (Oral). American Cleft Palate-Craniofacial Association 64th Annual Meeting, Broomfield, CO. April, 2007.
9. **Vyas RM**, Wasson KL, Jarrahy R, Dipple K, Gabbay JS, Tahernia A, Bradley JP. Defining Optimal Patient Selection for Mandibular Distraction Osteogenesis in Management of Neonatal Upper Airway Obstruction (Poster). American Society of Plastic Surgeons Plastic Surgery 2007 Meeting, Baltimore, MD. October, 2007.

10. **Vyas RM**, Kim DP, Mulliken JB. Primary Premaxillary Setback in Repair of Bilateral Complete Cleft Lip: Indications and Outcomes (Oral). 12th International Congress on Cleft Lip/Palate and Related Craniofacial Anomalies. Orlando, FL. May, 2013.
11. **Vyas RM**, Eberlin KR, Hamdan US. Implementation of an Emergency Response Protocol for Overseas Surgical Outreach Initiatives (Oral). 12th International Congress on Cleft Lip/Palate and Related Craniofacial Anomalies. Orlando, FL. May, 2013.
12. Fritz M, Weinstock M, **Vyas RM**, Rickert S. Craniofacial Three-dimensional Airway Analysis of Treacher Collins, Crouzon, and Non-Syndromic Pediatric Patients (Poster). American Society of Pediatric Otolaryngology (ASPO). Las Vegas, NV. May, 2014.
13. Alperovich M, **Vyas RM**, Staffenberg DA. Is Craniosynostosis Repair Keeping Up with the Times? Results from the Largest National Survey on Craniosynostosis (Oral). 94th Annual Meeting of the American Association of Plastic surgeons (AAPS). Scottsdale, AZ. April, 2015.
14. Alperovich M, **Vyas RM**, Staffenberg DA. Is Craniosynostosis Repair Keeping Up with the Times? Results from the Largest National Survey on Craniosynostosis (Oral). 72nd Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Palm Spring, CA. April 2015.
15. Alperovich M, **Vyas RM**, Staffenberg DA. How Does Plastic Surgical Training Affect Aesthetic Preference in Hypertelorism Repair? An Empiric Re-examination of Classic Aesthetic Norms (Poster). 72nd Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Palm Spring, CA. April 2015.
16. **Vyas RM**, Alperovich M, Staffenberg DA. Supra-brow Approach for Neurosurgical Access to Anterior Cranial Fossa and Ethmoid Sinus: Technique, Exposure, and Considerations (Oral). 72nd Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Palm Spring, CA. April 2015.
17. Alperovich M, Frey JD, Shetye PR, Grayson BH, **Vyas RM**. Breast Milk Feeding Rates in Patients with Cleft Lip and Palate at a North American Craniofacial Center (Oral). 73rd Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Atlanta, GA. April 2016.
18. **Vyas RM**, Hamdan US. International Cleft Surgery: Building Long-term Capacity and Sustainability (Oral). 73rd Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Atlanta, GA. April 2016.
19. **Vyas RM**, Hamdan US. Using Augmented Reality to Remotely Teach Cleft Surgery (Oral). 13th International Cleft Congress. Chennai, India. Feb 2017.
20. **Vyas RM**, Hamdan US. Comprehensive yet Simple Means of Implementing Emergency/Safety Protocols for Overseas Outreach Surgical Trips (Oral). 13th International Cleft Congress. Chennai, India. Feb 2017

21. Kanack M, Mueller M, Jaffurs D, **Vyas RM**. Pediatric mandible reconstruction for osteomyelitis during largest reported *Mycobacterium abscessus* outbreak (Poster). 76th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Tucson, AZ. April 2019.
22. **Vyas, R**. Traction Osteogenesis: A novel approach to growing the Pruzansky 3 Mandible (Oral). 18th Meeting of the International Society of Craniofacial Surgeons (ISCFS). Paris, France. September 2019. Abstract Published in *PRS Global Open*, 7(8S-2) Aug 2019:126-7.
23. **Vyas R**. Using augmented reality to remotely teach cleft surgery: Building long-term international capacity and sustainability (Poster). 18th Meeting of the International Society of Craniofacial Surgeons (ISCFS). Paris, France. September 2019.
24. Pourtaheri N, Kanack M, Mueller M, Jaffurs D, **Vyas RM**. Largest reported odontogenic *Mycobacterium abscessus* outbreak and treatment of a pediatric patient with mandibular osteomyelitis (Oral). 18th Meeting of the International Society of Craniofacial Surgeons (ISCFS). Paris, France. September 2019.
25. Banyard D, Sayadi L, **Vyas RM**. Application of the Neoclassical Canons and the Golden Ratio to Race and Ethnicity: A Systematic Review (Oral). 88th Annual Meeting of the American Society of Plastic Surgeons, San Diego, CA, Sept 2019.
26. **Vyas RM**, Sayadi L, Kanack M, Bendit D, Hamdan US. Augmented reality to remotely teach surgery: Sustainable overseas cleft outreach and future directions (Oral). 88th Annual Meeting of the American Society of Plastic Surgeons (ASPS), San Diego, CA, Sept 2019.
27. **Vyas, RM**, Sinha S, Davis K, Entezampour M. Why academic plastic surgery should lead Applied Anatomy for first year medical students. (Oral). 88th Annual Meeting of the American Society of Plastic Surgeons (ASPS), San Diego, CA, Sept 2019.
28. Sayadi L, Samai A, Chopan M, **Vyas RM**, Widgerow A, Majumder A. A novel technology for contour conforming projected flap markings (Oral). 88th Annual Meeting of the American Society of Plastic Surgeons (ASPS), San Diego, CA, Sept 2019.
29. **Vyas RM**, Sinha S, Entezampour M, Leis A, Evans G. Why Academic Plastic Surgery Should Lead “Clinically Applied Anatomy” for First Year Medical Students (Poster). American Council of Academic Plastic Surgeons (ACAPS) Winter Retreat. Austin, TX. Feb 2020.
30. **Vyas RM**. How to Leverage First-World Technology to Build Long-Term Capacity and Sustainability During International Surgical Outreach (Poster). American Council of Academic Plastic Surgeons (ACAPS) Winter Retreat. Austin, TX. Feb 2020.
31. Kanack M, Nakra N, Ahmad I, **Vyas RM**. What is Normal Newborn Sleep? A Characterization of Sleep Patterns in Neonates With and Without Airway Obstruction (Oral). 77th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Portland, OR. April 2020. Abstract published *Cleft Palate Craniofacial Journal*.
32. Lee CJ, Schuljak S, Pham J, Heyming T, **Vyas RM**. Epidemiology, Socioeconomic Analysis, and Specialist Involvement in Pediatric Dog Bite Wounds: A 5-Year Retrospective Review (Poster).

Western Pediatric Trauma Conference. Huntington Beach, CA. Abstract published but presentation not given due to COVID-19 Pandemic.

33. Shah N, Banyard D, **Vyas RM**. Top Ten in "Facial Attractiveness": A Review of the Most-Cited Literature (Oral). 2020 Clinical Congress of the American College of Surgeons (ACS). Chicago, IL. Oct 2020. Published *J American College of Surgeons* online due to COVID-19 global pandemic.
34. Kanack M, Nakra N, Ahmad I, **Vyas RM**. What is Normal Newborn Sleep? A Characterization of Sleep Patterns in Neonates With and Without Airway Obstruction (Oral). 89th Annual Meeting of the American Society of Plastic Surgeons (ASPS), San Francisco, CA. Oct 2020. "Top 100 Abstract" Published in *PRS Global Open*.
35. Khoshab N, Michelle L, Nguyen A, **Vyas RM**, Paydar K. Interactive iPad-Based Patient Education in Breast Reconstruction Planning (Oral). 89th Annual Meeting of the American Society of Plastic Surgeons (ASPS), San Francisco, CA. Oct 2020. "Top 100 Abstract" Published in *PRS Global Open*.
36. Hu J, Guan A, Zhangli Q, Sayadi R, Hamdan US, **Vyas RM**. Harnessing Machine Learning to Personalize Cleft Lip Markings (Oral). 89th Annual Meeting of the American Society of Plastic Surgeons (ASPS), San Francisco, CA. Oct 2020. "Top 100 Abstract" Published in *PRS Global Open*.
37. Shah N, Banyard D, **Vyas RM**. Top Ten in "Facial Attractiveness": A Review of the Most-Cited Literature (Oral). 89th Annual Meeting of the American Society of Plastic Surgeons (ASPS), San Francisco, CA. Oct 2020.
38. Banyard DA, Khoshab N, Sayadi LR, **Vyas RM**. Historical Tools of Anthropometric Facial Assessment: A Systematic Raw Data Analysis on the Applicability of the Neoclassical Canons and Golden Ratio (Oral). 89th Annual Meeting of the American Society of Plastic Surgeons (ASPS), San Francisco, CA. Oct 2020.
39. Lee CJ, Tiourin E, Khoshab N, Leis A, Nassif N, **Vyas RM**. Pediatric Free Tissue Transfer for Limb Salvage: Case Series and Review of Vascularized Fibular Epiphyseal Transfer. 89th Annual Meeting of the American Society of Plastic Surgeons (ASPS), San Francisco, CA. Oct 2020.
40. Sayadi LR, Hu J, Guan A, Zhangli Q, Hamdan US, **Vyas RM**. Harnessing Machine Learning to Place Cleft Lip Markings (Oral, Resident Section). 89th Annual Meeting of the American Society of Plastic Surgeons (ASPS), San Francisco, CA. Oct 2020.
41. Castro R, Tsutsumi K, Hu J, Mattison G, **Vyas RM**, Sayadi R. Plastic Surgery and Music: Examining the Influence on Modern Lyrics (Oral, Resident Section). 89th Annual Meeting of the American Society of Plastic Surgeons (ASPS), San Francisco, CA. Oct 2020.
42. Lee CJ, Tiourin E, Khoshab N, Leis A, Nassif N, **Vyas RM**. Factors that Influence Outcomes of Vascularized Fibular Epiphyseal Transfer for Microsurgical Pediatric Limb Salvage (Oral). 2021 Meeting of the American Society of Reconstructive Microsurgeons (ASRM). Kauai, HI. Jan 2021.

43. Khoshab N, Kanack M, Kadakia N, Tiourin E, Vargas S, Zadeh T, **Vyas RM**. Newly Identified Developmental Delays in a Large Population of Children with Non-Syndromic Cleft Lip and/or Palate (Oral). 78th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Raleigh, NC. May 2021.
44. Kanack M, Nakra N, Ahmad I, **Vyas RM**. Understanding Normal Newborn Sleep: A Characterization of Sleep Patterns in Neonates With and Without Airway Obstruction (Oral). 78th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Raleigh, NC. May 2021.
45. Hu J, ZhangLi Q, Guan A, Zhang J, Millares E, Sayadi L, Hamdan US, **Vyas RM**. Using Machine Learning to Develop an Artificial Intelligence Algorithm that Guides Nasolabial Repair (Oral). 78th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Raleigh, NC. May 2021.
46. Chahine EM, Al Abyad OS, Melhem AM, Kassam SN, **Vyas RM**, Haddad AG, Kantar RS, Hamdan US. Sustainable Cleft Care: A Comprehensive Model Based on the Global Smile Foundation Experience (Oral). 78th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Raleigh, NC. May 2021.
47. Grabar C, Fligor J, Kanack M, **Vyas RM**. A Survey of Enhanced Recovery after Surgery (ERAS) Elements in Cleft Palate Repair (Oral). 90th Annual Meeting of the American Society of Plastic Surgeons (ASPS). Atlanta, GA. Oct 2021.
48. Khoshab N, Vargas S, Zadeh T, **Vyas RM**. Interactive iPad-Based Education for Parents of Cleft Lip/Palate Patients (Oral). 90th Annual Meeting of the American Society of Plastic Surgeons (ASPS). Atlanta, GA. Oct 2021.
49. Baker N, Arowojolu T, **Vyas RM**. Biomaterials for Correction of Temporal Hollowing: A Systematic Review (Oral). 90th Annual Meeting of the American Society of Plastic Surgeons (ASPS). Atlanta, GA. Oct 2021.
50. Khoshab N, Kanack M, Kadakia N, Tiourin E, Vargas S, Zadeh T, **Vyas RM**. Newly Identified Developmental Delays in a Large Population of Children with Non-Syndromic Cleft Lip and/or Palate (Oral). 90th Annual Meeting of the American Society of Plastic Surgeons (ASPS). Atlanta, GA. Oct 2021. "Top 200 Abstract" Published in *PRS Global Open*.
51. Shah ND, Castro R, Attaripour SN, **Vyas RM**. Cost Effectiveness of Erenumab vs Surgical Trigger Site Deactivation for the Treatment of Migraine Headaches: A Systematic Review (Oral). 90th Annual Meeting of the American Society of Plastic Surgeons (ASPS). Atlanta, GA. Oct 2021. "Top 200 Abstract" Published in *PRS Global Open*.
52. Kanack M, Khoshab N, Sayadi L, Olson D, **Vyas RM**. Traction Osteogenesis: A Novel Approach to Growing the Pruzansky 3 Mandible (Poster). 90th Annual Meeting of the American Society of Plastic Surgeons (ASPS), Atlanta, GA. Oct 2021. "Top 25 Poster." Published in *PRS Global Open*.

53. Sayadi LR, Ibrahim T, Majumder A, **Vyas RM**. Remote Guidance of Cleft Lip Surgery Using Machine Learning and Projected Augmented Reality (Oral). World Society for Simulation 12th Annual Congress. Presented virtually due to COVID-19 Global Pandemic. Oct 2021.
54. Winicki N, Lin J, Holt-Torres P, **Vyas RM**, Aslani A, Tobin E, Liu H. Magnesium-Based Bioresorbable Implants for Craniomaxillofacial and Orthopedic Surgeries – *In Vivo* Studies in Rats (Oral). 2021 Clinical Congress of the American College of Surgeons (ACS). Presented virtually due to COVID-19 Global Pandemic. Oct 2021.
55. Al Abyad O, Melhem A, Younan R, Chahine E, Annan B, Ramly E, **Vyas RM**, Hamdan US. Application of Safety Protocols for International Cleft Outreach Programs During the COVID-19 Pandemic: Global Smile Foundation Precaution Guidelines and Implications (Oral). 79th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Fort Worth, TX. March-April 2022.
56. Melhem A, Al Abyad O, Younan R, Shah N, **Vyas RM**, Chahine E, Hamdan US. Emergency Response Protocols for Overseas Outreach Settings: Global Smile Foundation Strategy (Oral). 79th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Fort Worth, TX. March-April 2022.
57. **Vyas RM**, Sayadi L, Annan B, Chahine E, Hamdan US, Ibrahim T, Majumder A. Using Machine Learning and 3D Facial Projection to Remotely Guide Cleft Surgery (Oral). 79th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Fort Worth, TX. March-April 2022.
58. Ahmad I, Wenger T, Gogcu S, Welch CD, Resnick CM, Padula MA, Coghill CH, Menezes M, **Vyas RM**, Lioy J, Rottgers AS, Dinu D, Cielo C. Clinical Presentation and Outcomes for Infants with Micrognathia: a report from the Children’s Hospitals Neonatal Consortium Micrognathia Focus Group (Poster). 2022 Meeting of the Pediatric Academic Societies (PAS). Denver, CO. April 2022.
59. **Vyas RM**, Grabar C, Fligor J, Walsh J, Kim J, Kanack M. A survey on Enhanced Recovery After Surgery (ERAS) elements in cleft palate repair (Oral). Cleft 2022: 14th International Cleft Congress. Edinburgh, Scotland, UK. July 2022.
60. **Vyas RM**, Khoshab N, Donnelly M, Vargas S, Zadeh T. Interactive iPad based education for parents of children with cleft lip/palate (Oral). Cleft 2022: 14th International Cleft Congress. Edinburgh, Scotland, UK. July 2022.
61. **Vyas RM**, Khoshab N, Tiourin E, Kanack M, Kadakia N, Vargas S, Zadeh T. Newly identified developmental delays in a large population of children with non-syndromic cleft lip and/or palate (Oral). Cleft 2022: 14th International Cleft Congress. Edinburgh, Scotland, UK. July 2022. Awarded the Congress Arnold Huddart Medal by Craniofacial Society of Great Britain and Ireland for “Research describing a previously undiscovered finding in human anatomy and its relevance for cleft repair.”

62. **Vyas RM**, Sayadi L, Ibrahim T, Annan B, Chahine E, Hamdan US, Majumder A. Using Artificial Intelligence (AI) and Augmented Reality (AR) 3D projection to remotely guide cleft surgery (Oral). Cleft 2022: 14th International Cleft Congress. Edinburgh, Scotland, UK. July 2022.
63. Haddad M, Al Abyad O, Melhem A, Younan R, Ridgell L, Chahine E, Shah N, **Vyas RM**, Hamdan US. Emergency Response Protocols for Overseas Outreach Settings: Global Smile Foundation Strategy (Oral). Cleft 2022: 14th International Cleft Congress. Edinburgh, Scotland, UK. July 2022.
64. Haddad M, Melhem A, Al Abyad O, Younan R, Ridgell L, Chahine E, Ramly E, Teng S, **Vyas RM**, Hamdan US. Enhanced Recovery After Cleft Lip Repair: Protocol Development and Implementation in Outreach Settings (Oral). Cleft 2022: 14th International Cleft Congress. Edinburgh, Scotland, UK. July 2022.
65. Haddad M, Al Abyad O, Melhem A, Younan R, Chahine E, Ridgell L, Annan B, Ramly E, **Vyas RM**, Hamdan US. Application of Safety Protocols for International Cleft Outreach Programs During the COVID-19 Pandemic: Global Smile Foundation Guidelines and Implications (Oral). Cleft 2022: 14th International Cleft Congress. Edinburgh, Scotland, UK. July 2022.
66. **Vyas RM**, Hamdan U, Haddad M, Younan R, Annan B. Emergency Response Protocols for Overseas Outreach Settings (Poster). Cleft 2022: 14th International Cleft Congress. Edinburgh, Scotland, UK. July 2022.
67. **Vyas RM**, Hamdan US, Haddad M, Younan R, Annan B. Considerations in Management of Nasolabial Clefts During the COVID-19 Global Pandemic: Safety Recommendations and Implications (Poster). Cleft 2022: 14th International Cleft Congress. Edinburgh, Scotland, UK. July 2022.
68. Haddad M, Kantar RS, Esenlik E, Al Abyad OS...**Vyas RM**, Flores RL, Breugem CC, Hamdan US. The First Hybrid International Educational Simulation-Based Comprehensive Cleft Care Workshop (Poster). Cleft 2022: 14th International Cleft Congress. Edinburgh, Scotland, UK. July 2022.
69. Haddad M, Al Abyad O, Melhem A, Younan R, Chahine E, Ridgell L, Kantar R, Kassam S, Haddad A, **Vyas RM**, Hamdan US. Sustainable Cleft Care: A Comprehensive Model Based on the Global Smile Foundation Experience (Poster). Cleft 2022: 14th International Cleft Congress. Edinburgh, Scotland, UK. July 2022.
70. Resnick CM, Rottgers AS, Swanson JW, **Vyas RM**, Molter D, Menezes M, Goldstein J, Padula M, Coghill CH, Cielo C. Early Surgical Management of Infants with Robin Sequence in a Large Multi-Center Sample (Oral). 91st Annual Meeting of the American Society of Plastic Surgeons (ASPS). Boston, MA. Oct 2022. "Top 200 Abstract" Published in *PRS Global Open*.
71. Brito E, Gutierrez V, Oberoi MK, DeGuzman A, Entezampour M, Friscia D, Handler SJ, Stuparich MA, **Vyas RM**, Javid D, Iraniha A. A Hands-on Surgical Anatomy Course Positively

Effects Medical Students' Decision to Pursue Surgery (Oral). 18th Annual Academic Surgical Congress (ACS). Houston, TX. Feb 2023.

72. Dinh P, Hu A, Kanack M, Hoang V, Vargas S, Zadeh T, Marshall A, Pham L, Olson D, Pfaff MJ, Jaffurs D, **Vyas RM**. The Impact of Age and Sex on Patient/Guardian-Reported Psychosocial Outcomes in Children with Cleft/Craniofacial Differences (Oral). 80th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Raleigh, NC. May 2023.
73. Hussein S, Younin R, Hadad M, Najjar W, Ridgell L, Annan B, Keith K, Esenlik E, Johnson A, **Vyas RM**, Hamdan US, Kantar R. The First Hybrid Simulation-based Global Comprehensive Cleft Care Workshop (CCCW) (Poster). 80th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Raleigh, NC. May 2023.
74. Younin R, Hadad M, Najjar W, Melhem A, Hussein S, Ridgell L, Kantar R, **Vyas RM**, Hamdan US. Enhanced Recovery after Cleft Palate Surgery: Protocol Development and Implementation in Outreach Settings (Oral). 80th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Raleigh, NC. May 2023.
75. **Vyas RM**, Najjar W, Younin R, Hadad M, Hussein S, Ridgell L, Hartzell L, Runyan C, Gillett D, Breugem C, ... Patel K, Mann R, Losee J, Kummer A, Hamdan US. Cleft Summit 2022 (Oral). 80th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Raleigh, NC. May 2023.
76. Sayadi L, **Vyas RM**, Ibrahim T, Majumder A. Projected Augmented Reality: An Innovation for Surgical Guidance During Cleft Surgery (Oral). 80th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Raleigh, NC. May 2023.
77. Arowojolu O, **Vyas RM**. Reconstruction of Severe Frontonasal Dysplasia in Infancy: A Case Report (Poster). 20th Meeting of the International Society of Craniofacial Surgeons (ISCFS). Seattle, WA, USA. Sept 2023.
78. Sayadi L, Vyas RM. Identification of Cleft Anthropometry to Facilitate AR/VR Training (Oral). 20th Meeting of the International Society of Craniofacial Surgeons (ISCFS). Seattle, WA, USA. Sept 2023.
79. Cordero J, Ting C, Alaniz L, Sun D, Chen Y, Holt-Torres P, Steward E, Liu H, **Vyas RM** (Oral). Magnesium-Derived Alloys with Nanostructured Surfaces for Distraction Osteogenesis in a Minipig Model. 20th Meeting of the International Society of Craniofacial Surgeons (ISCFS). Seattle, WA, USA. Sept 2023.

- References 3, 6, 7, 28, 34, 35, 36, 50, 51, 52, 61, and 70 received abstract/presentation awards.

Regional Meetings

1. **Vyas RM**, Jefferis GSXE, Marin EC, Komiyama T, Luo L. Connecting the Fly's Brain to the Fly's Nose (Oral). Stanford Neurosciences Annual Retreat. Hopkins Marine Station, Monterey, CA. October, 2002.

2. **Vyas RM**, Jefferis GSXE, Berdnik D, Ito K, Luo L. Cellular Origins of Wiring Specificity in the Olfactory System of *Drosophila* (Oral, Awarded Abstract). Stanford Honors Research Symposium. Stanford, CA. May, 2003.
3. **Vyas RM**, Jefferis GSXE, Berdnik D, Ito K, Luo L. Wiring Specificity in the Olfactory System of *Drosophila* (Oral). Western Student Medical Research Forum. Carmel, CA. January, 2004.
4. **Vyas RM**, Halevi L, Shamie AN, Wang JC. Spinal Hardware Removal: Causes, Outcomes, & Predictors of Success (Poster). University of California, Los Angeles, Josiah Brown Poster Fair. Los Angeles, CA. August, 2004.
5. **Vyas RM**, Shamie AN, Wang JC. Spinal Hardware Removal: Causes, Outcomes, and Predictors of Success (Oral). Western Student Medical Research Forum. Carmel, CA. January, 2005.
6. SooHoo NF, **Vyas RM**, Samimi D. Responsiveness of the Foot Function Index, AOFAS Clinical Rating Systems, and SF-36 Following Foot and Ankle Surgery (Poster). American Orthopaedic Foot and Ankle Society 22nd Annual Meeting. La Jolla, CA. July, 2006.
7. **Vyas RM**, Dickinson BP, Wasson KL, Roostaein J, Trussler A, Bradley JP. Pediatric Facial Fractures: Current National Prevalence, Demographic Distribution, and Health Care Resource Utilization (Poster). California Society of Plastic Surgeons 57th Annual Meeting (CSPS). San Francisco, CA. May, 2007.
8. **Vyas RM**, Erba P, Ogawa R, Orgill DP. The Reconstructive Matrix: A New Paradigm in Reconstructive Plastic Surgery (Oral). Northeastern Society of Plastic Surgeons 27th Annual Meeting (NESPS). Washington, DC. October, 2010.
9. **Vyas RM**, Orgill DP. Transdiaphragmatic Omental Harvest: A Simple, Efficient Method for Sternal Wound Coverage (Oral). 33rd Annual Meeting of the Indian Medical Association of Southern California, Anaheim, CA. October 2012.
10. **Vyas RM**. Using Augmented Reality to Remotely Teach Cleft Surgery: Building Long-term International Capacity and Sustainability (Oral). 67th Annual Meeting of the California Society of Plastic Surgeons (CSPS). San Francisco, CA. May 2017.
11. Lee CJ, Molina N, **Vyas RM**. Management and Review of Dog Bite Wounds in Adults: A Retrospective Analysis at a Level I Trauma Center (Oral). 67th Annual Meeting of the California Society of Plastic Surgeons (CSPS). San Francisco, CA. May 2017.
12. **Vyas RM**, Kanack M, Ahmad I, Nakra N. Traction Osteogenesis: A Novel Approach to Growing the Pruzansky 3 Mandible (Poster). 70th Annual Meeting of the California Society of Plastic Surgeons (CSPS). San Diego, CA (Virtual Conference due to COVID-19 Pandemic). August 2020.
13. Kanack M, Nakra N, Ahmad I, **Vyas RM**. What is Normal Newborn Sleep? A Characterization of Sleep Patterns in Neonates With and Without Airway Obstruction (Poster). 70th Annual Meeting

- of the California Society of Plastic Surgeons (CSPS). San Diego, CA (Virtual Conference due to COVID-19 Pandemic). August 2020.
14. **Vyas RM**, Sinha S, Tang C, Lanier B, Leis A, Evans GRD, Entezampour M. Why Academic Plastic Surgery Should Lead A “Clinically Applied Anatomy” Course for First Year Medical Students (Poster). 70th Annual Meeting of the California Society of Plastic Surgeons (CSPS). San Diego, CA (Virtual Conference due to COVID-19 Pandemic). August 2020.
 15. Grabar C, Fligor J, Kanack K, **Vyas RM**. A Survey on Enhanced Recovery After Surgery (ERAS) Elements in Cleft Palate Repair (Oral). 71st Annual Meeting of the California Society of Plastic Surgeons (CSPS). Monterey, CA. May 2021.
 16. Arowojolu O, Baker N, **Vyas RM**. Biomaterials for Correction of Temporal Hollowing: A Systematic Review (Oral). 71st Annual Meeting of the California Society of Plastic Surgeons (CSPS). Monterey, CA. May 2021.
 17. Sayadi L, Hu J, Guan A, Zhangli Q, Hamdan US, **Vyas RM**. Using Machine Learning to Develop an Artificial Intelligence Algorithm that Guides Nasolabial Repair (Oral). 71st Annual Meeting of the California Society of Plastic Surgeons (CSPS). Monterey, CA. May 2021.
 18. Tiourin E*, Lee CJ, Khoshab N, Leis A, Nassif N, **Vyas RM**. Pediatric Free Tissue Transfer for Limb Salvage: Case Series and Review of Vascularized Fibular Eiphyseal Transfer (Oral). 71st Annual Meeting of the California Society of Plastic Surgeons (CSPS). Monterey, CA. May 2021.
*Awarded Best Resident Presentation.
 19. Sayadi L, Hamdan US, **Vyas RM**. Using Machine Learning and 3D Facial Projection to Remotely Guide Cleft Surgery (Oral). Annual Scientific Meeting of the Southern California Chapter of American College of Surgeons (SCCACS). Santa Barbara, CA. Jan 2022.
 20. Shah N, Arowojolu O, **Vyas RM**. Mandibular Distraction in Dual Syndromic Diagnosis (Poster). 73rd Annual Meeting of the California Society of Plastic Surgeons (CSPS). San Francisco, CA. May 2023.
 21. Mocharnuk J, Glenney A, **Vyas RM**, Goldstein J, Pfaff M. An Analysis Of The Surgical Burden Of Pediatric Gunshot Wound Injuries Using The National Pediatric Health Information Systems Database (Poster). 73rd Annual Meeting of the California Society of Plastic Surgeons (CSPS). San Francisco, CA. May 2023.
 22. Sayadi L, Ibrahim T, Majumder A, **Vyas RM**. Projected Augmented Reality and Artificial Intelligence – A New Era in Global Cleft Surgery (Oral). 73rd Annual Meeting of the California Society of Plastic Surgeons (CSPS). San Francisco, CA. May 2023.
 23. Fligor J, Sayadi L, **Vyas RM**. Implementation of an Enhanced Recovery After Surgery (ERAS) Protocol in Cleft Palate Repair in a Pediatric Tertiary Care Hospital (Oral). 73rd Annual Meeting of the California Society of Plastic Surgeons (CSPS). San Francisco, CA. May 2023.
 24. Mocharnuk J, Glenney A, **Vyas RM**, Goldstein J, Pfaff M. National Database Perspective on Pediatric Non-Accidental Trauma Patients and Outcomes for Facial Trauma-Related Procedures

(Oral). 73rd Annual Meeting of the California Society of Plastic Surgeons (CSPS). San Francisco, CA. May 2023.

25. Davis G, **Vyas RM**, Rohde C, McIntyre J, Pusic A, Gosman A. Results of a Pilot Virtual Microsurgery Course for Plastic Surgeons in LMICs (Oral). 73rd Annual Meeting of the California Society of Plastic Surgeons (CSPS). San Francisco, CA. May 2023.

- References 2, 9, and 18 received abstract/presentation awards.

Invited Presentations and Visiting Professorships (excluding intradepartmental)

1. **Vyas RM**. Unilateral Cleft Lip Repair: Principles, Techniques, and Controversy. Visiting Professor, Association of Plastic Surgeons of Trujillo, Peru. Trujillo, Peru. July 3, 2015.
2. **Vyas RM**. The Unilateral Nasolabial Cleft. Visiting Professor, UC Irvine Department of Plastic Surgery Grand Rounds. Orange, CA. Aug 24, 2015.
3. **Vyas RM**. Plastic Surgery: What it is and Why I Love It. American Medical Student Association (AMSA), UC Riverside Chapter. Riverside, CA. Jan 2016.
4. **Vyas RM**. Bilateral Cleft Lip Repair: Principles, Techniques, and Controversies. Visiting Professor, Association of Plastic Surgeons of Trujillo, Peru. Trujillo, Peru. Feb 14, 2016.
5. **Vyas RM**, Anderson T, Ahmad I. Mandibular Distraction Osteogenesis for Neonatal Airway Obstruction. St. Mary's Hospital-CHOC Combined Neonatal Grand Rounds, CME. Apple Valley, CA. May 24, 2016.
6. **Vyas RM**. Keynote Presentation: Restoring Facial Form and Function in the 21st Century. Acid Survivors Trust International - Care for the Cause Gala. Newport Beach, CA. Oct 15, 2016.
7. **Vyas RM**. Plastic Surgery: What it is and Why I Love It. American Medical Student Association (AMSA), UC Riverside Chapter. Riverside, CA. Jan 2017.
8. **Vyas RM**. The Role of Craniofacial Surgery in Treatment of Chronic Migraine Headaches. Anaheim General Hospital Medical Staff Grand Rounds, CME. Anaheim, CA. Jan 31, 2017.
9. **Vyas RM**. The Role of Craniofacial Surgery in the Treatment of Chronic Migraine Headaches. Grand Rounds, UC Irvine Department of Plastic Surgery. Orange, CA. March 15, 2017.
10. **Vyas RM**, Ahmad I. Mandibular Distraction Osteogenesis for Neonatal Airway Obstruction. Pomona Valley Hospital-CHOC Combined Neonatal Grand Rounds, CME. Pomona, CA. April 26, 2017.
11. **Vyas RM**. The Role of Craniofacial Surgery in Treatment of Chronic Migraine Headaches. Northridge Hospital Medical Center Grand Rounds, CME. Northridge, CA. May 9, 2017.

12. **Vyas RM.** Plastic Surgery: What it is and Why I Love It. American Medical Student Association (AMSA), UC Riverside Chapter. Riverside, CA. Jan 2018.
13. **Vyas RM.** The Role of Craniofacial Surgery in Treatment of Chronic Migraine Headaches. La Palma Intercommunity Hospital Grand Rounds, CME. La Palma, CA. May 14, 2018.
14. **Vyas RM.** Plastic Surgery: What it is and Why I Love It. American Medical Student Association (AMSA), UC Riverside Chapter. Riverside, CA. Jan 2019.
15. **Vyas RM.** On the Front Lines of Cleft Lip and Palate. St. Joseph Hospital Genetics-MFM Combined Grand Rounds, CME. Orange, CA. April 2, 2019.
16. **Vyas RM.** Building and Sustaining Multidisciplinary Overseas Cleft Outreach: Using All Our Tools. Visiting Professor, EsSalud Hospital System. Trujillo, Peru. May 29, 2019.
17. **Vyas RM,** Chen N, Mungo R. Pre-Surgical Orthopedic NasoAlveolar Molding in Cleft Lip and Palate. Grand Rounds, CHOC Children's Hospital. Orange, CA. Sept 2, 2019.
18. **Vyas RM.** The Evolution of Cleft Lip (& Nose!) Repair (75 minute oral). 77th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA). Portland, OR. April 2020. Abstract published *Cleft Palate Craniofacial Journal*.
19. **Vyas RM.** Neuroplastic Surgery: Avoiding Problems and Restoring Lives. Grand Rounds, UC Irvine Department of Neurologic Surgery. Orange, CA. May 1, 2020.
20. **Vyas RM.** Neuroplastic Reconstruction: Past, Present & Future. (Virtual) Visiting Professor, University of Washington Department of Plastic Surgery. Seattle, WA. May 5, 2020.
21. **Vyas RM.** Neuroplastic Reconstruction after Neurologic Surgery. (Virtual) Visiting Professor, Indiana University Division of Plastic Surgery. Indianapolis, IN. May 13, 2020.
22. **Vyas RM,** Nakra N, Ahmad I. Mandibular Distraction Osteogenesis for Neonatal Airway Obstruction: Optimizing Outcomes with Evidence-Based Patient Selection and Virtual Surgical Planning. Grand Round, CHOC Children's Hospital. Orange, CA. July 29, 2020.
23. **Vyas RM.** Dog Bites and Facial Trauma. Western Pediatric Trauma Conference. Huntington Beach, CA. July 17, 2020.
24. **Vyas RM,** Kanack M, Nakra N, Ahmad I. Mandibular Distraction Osteogenesis for Neonatal Airway Obstruction: Optimizing Results with Evidence-Based Patient Selection and Use of Virtual Surgical Planning. Webinar for American Cleft Palate-Craniofacial Association (ACPA). August 4, 2020.
25. **Vyas RM,** Nakra N, Ahmad I. Optimizing Patient Selection and Surgical Results in Mandibular Distraction Osteogenesis. Virtual Education Seminar for CHOC Children's Hospital & Regional NICUs. Sept 23, 2020.

26. **Vyas RM.** Tradeoffs in Cleft Lip vs Cleft Nose Repair: Favoring the Nose. 3rd International Comprehensive Cleft Care Workshop. Chennai, India. Held virtually due to COVID-19 pandemic. October 2, 2020.
27. **Vyas RM.** The Evolution of Cleft Lip (& Nose!) Repair. Webinar for American Cleft Palate-Craniofacial Association (ACPA). Nov 3, 2020.
28. **Vyas RM.** Neuroplastic Reconstruction. (Virtual) Visiting Professor, UC San Diego Division of Plastic Surgery. San Diego, CA. Jan 27, 2021.
29. **Vyas RM, Nakra N, Ahmad I.** Mandibular Distraction Osteogenesis for Neonatal Airway Obstruction: New Insights and Future Directions. CHOC Children's Hospital Virtual Pediatric Lecture Series, Department of Pediatrics, CME. March 30, 2021.
30. **Vyas RM.** Mandibular Distraction Osteogenesis for Neonatal Airway Obstruction: New Insights and Future Directions. Mission Hospital Pediatric CME. Mission Viejo, CA. April 28, 2021
31. **Vyas RM.** Mandibular Distraction Osteogenesis for Neonatal Airway Obstruction: New Insights and Future Directions. PIH Health Virtual CME. June 10, 2021
32. **Vyas RM.** Priorities in Cleft Nasal Repair: Septum, Floor, Columella, Sill, & Tip. 4th International Comprehensive Cleft Care Workshop (CCCW). Istanbul, Turkey. Oct 6, 2021.
33. **Vyas RM, Ibrahim T, Sayadi LR, Chahine E, Annan B, Hamdan US, Majumder A.** Combining AI and AR for Knowledge and Skill Transfer in Cleft Surgery. 4th International Comprehensive Cleft Care Workshop (CCCW). Istanbul, Turkey. Oct 7, 2021.
34. **Vyas RM.** Is Neonatal Obstructive Sleep Apnea Responsible for Long-Term Developmental Delays in Cleft Lip and Palate? 4th International Comprehensive Cleft Care Workshop (CCCW). Istanbul, Turkey. Oct 8, 2021.
35. **Vyas RM.** Understanding Plastic Surgery: Grafts, Flaps, & the Reconstructive Matrix. Grand Rounds, UC Irvine Department of Urology, UC Irvine School of Medicine. Orange, CA. January 5, 2022.
36. **Vyas RM.** Prenatal Diagnosis and Early Management of Cleft Lip and Palate. Genetics Center Interdisciplinary Conference, CHOC Children's Hospital, Orange, CA. June 7, 2022.
37. **Vyas RM.** Cleft Lip Repair *is* Cleft Nose Repair. Grand Rounds, UC Irvine Department of Otolaryngology, UC Irvine School of Medicine. Orange, CA. Aug 12, 2022.
38. **Vyas RM.** The Aesthetic Opportunity. AestheticSafe Resident Injection Workshop. Anaheim, CA. Aug 13, 2022.
39. **Vyas RM.** Craniomaxillofacial Anatomy and Radiology. 8th Annual ACAPS/ASPS Plastic Surgery Boot Camp. San Diego, CA. Aug 20, 2022.

40. **Vyas RM.** Nasolabial Tradeoffs in Unilateral Cleft Lip Repair: A Comparison of Techniques. 5th International Comprehensive Cleft Care Workshop (CCCW). Rio de Janeiro, Brazil. Oct 11, 2022.
41. **Vyas RM,** Pathak B, Vyas JM. Yoga to Improve Well-being, Performance, and Longevity in Cleft Providers. 5th International Comprehensive Cleft Care Workshop (CCCW). Rio de Janeiro, Brazil. Oct 14, 2022.
42. **Vyas RM,** Sayadi L, Ibrahim T, Majumder A, Annan B, Hamdan US. Using AI and AR to Remotely Teach Cleft Surgery. 5th International Comprehensive Cleft Care Workshop (CCCW). Rio de Janeiro, Brazil. Oct 14, 2022.
43. **Vyas RM.** Operation Diversify Plastic Surgery: Making a Global Impact. Operation Diversify Plastic Surgery Virtual Lecture Series. Oct 28, 2022.
44. Cervantes B, **Vyas RM,** Naidu A. Building Access to Gender Affirming Care. Grand Rounds, UC Irvine Department of Psychiatry. Feb 1, 2023.
45. **Vyas RM.** Chardonnay: A California Kid Who Hates Migraines. American Alpine Workshop in Plastic Surgery (AAWPS). Jackson Hole, WY. Feb 13, 2023.
46. **Vyas RM.** Facial Reanimation: A Timely Baby-Sitter, Highly Selective Neurectomy, and a Cross-Facial Nerve Graft. American Alpine Workshop in Plastic Surgery (AAWPS). Jackson Hole, WY. Feb 14, 2023.
47. **Vyas RM.** Free Fibula? I Thought This Was a Cleft Case! American Alpine Workshop in Plastic Surgery (AAWPS). Jackson Hole, WY. Feb 15, 2023.
48. **Vyas RM.** No More Primary Cleft Lip Repairs During Overseas Outreach. American Alpine Workshop in Plastic Surgery (AAWPS). Jackson Hole, WY. Feb 16, 2023.
49. **Vyas RM.** Mandibular Distraction Osteogenesis: New Insights and Future Directions. Visiting Professor, American College of Surgeons (ACS) and Plastic Surgery Foundation (PSF). Department of Plastic Surgery, Military Hospital of Rwanda, Kigali, Rwanda. March 7, 2023.
50. **Vyas RM.** Selecting the Appropriate Design for Unilateral Cleft Lip Repair: Understanding Nasolabial Tradeoffs. Visiting Professor, American College of Surgeons (ACS) and Plastic Surgery Foundation (PSF). Department of Plastic Surgery, Military Hospital of Rwanda, Kigali, Rwanda. March 8, 2023.
51. **Vyas RM.** Neuroplastic Reconstruction: Scalp, Cranium, Dura, Skull Base, and Spine. Visiting Professor, American College of Surgeons (ACS) and Plastic Surgery Foundation (PSF). Department of Plastic Surgery, Military Hospital of Rwanda, Kigali, Rwanda. March 13, 2023.
52. **Vyas RM.** Cleft Lip and Palate: Surgical Techniques, Emerging Technologies & Best Practices (Oral and Webinar). Visiting Professor, EsSalud Hospital System and Peruvian Ministry of Health. Trujillo Peru. May 25, 2023.

53. **Vyas RM.** The Post-Covid Era: Moving Beyond Telehealth and into our Future. 20th International Congress of the International Society of Craniofacial Surgeons (ISCFS). Seattle, WA, USA. September 5, 2023.
54. **Vyas RM.** Spatial Augmented Reality with 3D Surface Projection for Remote Intra-Operative Guidance. 20th International Congress of the International Society of Craniofacial Surgeons (ISCFS). Seattle, WA, USA. September 5, 2023.
55. **Vyas RM.** Nasolabial Tradeoffs in Unilateral Cleft Lip Repair: A Comparison of Techniques. 6th International Comprehensive Cleft Care Workshop (CCCW). Barcelona, Spain. Oct 10, 2023.
56. **Vyas, RM,** Sayadi L, Ibrahim T, Meenakshisundaram G, Annan B, Majumder A, Hamdan US. Using Spatial Augmented Reality and Artificial Intelligence to Remotely Teach Cleft Surgery. 6th International Comprehensive Cleft Care Workshop (CCCW). Barcelona, Spain. Oct 10, 2023.
57. **Vyas RM.** Neuroplastic Reconstruction in 2023. Visiting Professor to Asan Medical Center, Seoul, South Korea. Nov 9, 2023.

Scientific Panels, Sessions, and Workshops (excluding intradepartmental)

1. Panel Chair: **Vyas RM** (90 minutes)
 Panelists: **Vyas RM,** Nakra N, Kanack M, Ahmad I.
 Panel Title: Mandibular Distraction Osteogenesis for Neonatal Airway Obstruction: Optimizing Results with Evidence-Based Patient Selection and Use of Virtual Surgical Planning.
 77th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA).
 Portland, OR. April 2020.
 Presented virtually due to COVID-19 global pandemic. Abstract published in *Cleft Palate Craniofacial Journal*
2. Session Chairs: **Vyas RM & Francis S.** (90 minutes)
 Session Title: Concurrent Session 10: American Society of Craniofacial Surgeons (ASCFS) Craniofacial II Panel.
 77th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA).
 Portland, OR. April 2020. Panel held virtually due to COVID-19 global pandemic.
3. Workshop Chair: **Vyas RM** (60 minutes)
 Workshop Instructors: **Vyas RM,** Marston A, Sethna N, Hamdan US.
 Workshop Title: Use of Nerve Blocks in Cleft Surgery.
 3rd International Comprehensive Cleft Care Workshop (CCCW).
 Chennai, India. October 2, 2020. Workshop held virtually due to COVID-19 global pandemic.
4. Workshop Chair: **Vyas RM** (180 minutes)
 Workshop Instructors: **Vyas RM,** Jaffurs D, Pfaff M, Meyer L.
 Workshop Title: Facial Fracture Plating Workshop
 Sponsor: KLS Martin
 Orange, CA. September 4, 2021

5. Panel Chairs: **Vyas RM** and Hamdan US (30 minutes)
 Panelists: Fisher DM, Tse R, Chong D, Losee J, Flores R. Forest C, **Vyas RM**.
 Panel Title: Masters' Roundtable Discussion 1: Unilateral Cleft Lip Repair
 4th International Comprehensive Cleft Care Workshop (CCCW).
 Istanbul, Turkey. October 6, 2021.
6. Workshop Chairs: **Vyas RM** & Breugem C (90 minutes)
 Workshop Instructors: **Vyas RM**, Breugem C, Hamdan US, Hartzell L, Flores R, Al Abyad O.
 Workshop Title: Augmented Reality Wearable Technologies to Facilitate Knowledge and Skill
 Transfer for Comprehensive Cleft Care.
 4th International Comprehensive Cleft Care Workshop (CCCW).
 Istanbul, Turkey. October 6, 2021.
7. Workshop Chair: **Vyas RM** (60 minutes)
 Workshop Instructors: **Vyas RM**, Hamdan US, Vijayakumar C.
 Workshop Title: Use of Nerve Blocks in Cleft Surgery.
 4th International Comprehensive Cleft Care Workshop (CCCW).
 Istanbul, Turkey. October 7, 2021.
8. Panel Chairs: **Vyas RM** and Steinbacher D (30 minutes)
 Panelists: **Vyas RM**, Steinbacher D, Losee J, Flores R. Chen P.
 Panel Title: Masters' Roundtable Discussion 4: Secondary Correction of Cleft Deformities
 4th International Comprehensive Cleft Care Workshop (CCCW).
 Istanbul, Turkey. October 7, 2021.
9. Workshop Chairs: Losee J and **Vyas RM** (90 minutes)
 Workshop Instructors: Losee J, **Vyas RM**, Hamdan US, Hartzell L, Flores R, Breugem C.
 Workshop Title: Learning Furlow Palatoplasty with High-Fidelity 3D Cleft Palate Models.
 4th International Comprehensive Cleft Care Workshop (CCCW).
 Istanbul, Turkey. October 8, 2021.
10. Session Chairs: **Vyas RM** & Mason A (120 minutes)
 Session Title: Scientific Abstract Presentations: Craniomaxillofacial/Head & Neck Session 1.
 90th Annual Meeting of the American Society of Plastic Surgeons (ASPS).
 Atlanta, GA. October 29, 2021.
11. Panel Chairs: McIntyre J, Gosman A, Pusic A, Rohde C, & **Vyas RM** (60 minutes)
 Panelists: McIntyre J, Gosman A, Pusic A, Rohde C, & **Vyas RM**.
 Panel Title: Plastic Surgery Volunteering, Capacity Building, and Philanthropy in the 21st
 Century: Lessons Learned from PSF's SHARE Program.
 90th Annual Meeting of the American Society of Plastic Surgeons (ASPS).
 Atlanta, GA. October 30, 2021.
12. Session Chairs: Synder-Warwick A & **Vyas RM** (90 minutes)
 Session Title: Scientific Abstract Presentations: Craniomaxillofacial/Head & Neck Session 9.
 90th Annual Meeting of the American Society of Plastic Surgeons (ASPS).
 Atlanta, GA. November 1, 2021.

13. Session Chair: **Vyas RM** (60 minutes)
 Session Title: Scientific Abstract Presentations: Pediatric/Plastic Surgery.
 Annual Scientific Meetings of the Southern California Chapter of the American College of Surgeons (SCCACS).
 Santa Barbara, CA. Jan 15, 2022.

14. Workshop Chairs: Gosman A, Pusic A, Lee G (120 minutes)
 Workshop Instructors: Lee G, Rose J, Rohde C, McIntyre J, **Vyas RM**, Pusic A, Gosman A.
 Workshop Title: SHARE Virtual Microsurgery Skills Bootcamp
 SHARE (Surgeons for Humanitarian Alliance in Reconstruction, Research and Education)
 Jan 29, 2022. Held Virtually.

15. Session Chair: **Vyas RM** (60 minutes)
 Presenter: **Vyas RM**
 Session Title: Study Session Group 3: Cleft Lip Repair *is* Cleft Nose Repair
 79th Annual Meeting of the American Cleft Palate-Craniofacial Association (ACPA).
 Fort Worth, TX. April 1, 2022.

16. Workshop Chairs: Gosman A, Pusic A, Lee G, Rohde C (210 minutes)
 Workshop Instructors: Gosman A, Pusic A, Lee G, Rose J, Rohde C, McIntyre J, **Vyas RM**, Reid C, Bassir B, Taylor E, Helliwell L, Halperin J, Casy N, Braun E, Shyaka I.
 Workshop Title: SHARE Virtual Microsurgery Workshop 2
 SHARE (Surgeons for Humanitarian Alliance in Reconstruction, Research and Education)
 July 23, 2022. Held Virtually.

17. Workshop Chair: Williams B (540 minutes)
 Invited Faculty: Leis A, Yoelin S, Fitzgerald R, Rivkin A, **Vyas RM** (\$1500)
 AestheticSAFE Resident Hands-on Injection Workshop
 Sponsor: xMedica, LLC
 Anaheim, CA. Aug 13, 2022.

18. Session Chair: Gosman A (135 minutes)
 Faculty: Casey W, French B, Hill M, Leis A, Lance S, Koretanger R, Lee G, **Vyas RM**, Reid C, Gosman A, Rodriguez J, Llaneras J, Tong S, Leach G, Dean R.
 Session Title: Integrated Block 1, Clinical Competency: Case Scenarios (Small Groups)
 Session Title: Integrated Block 1, Clinical Competency: Suturing Skills Lab
 8th Annual ACAPS/ASPS Plastic Surgery Boot Camp
 Sponsors: American Council of Academic Plastic Surgeons (ACAPS) & American Society of Plastic Surgeons (ASPS)
 Center for the Future of Surgery, UCSD, San Diego, CA. August 19, 2022.

19. Session Chair: Gosman A (90 minutes)
 Faculty: **Vyas RM**, Kanack M, Do N, Englar K.
 Session Title: Block 3, Clinical Competency: Cleft Palate Model Skills Lab
 8th Annual ACAPS/ASPS Plastic Surgery Boot Camp
 Sponsors: American Council of Academic Plastic Surgeons (ACAPS) & American Society of Plastic Surgeons (ASPS)
 Center for the Future of Surgery, UCSD, San Diego, CA. August 20, 2022.

20. Session Chair: Gosman A (90 minutes)
Faculty: **Vyas RM**, French B, Tong S, Dean R.
Session Title: Block 4, Clinical Competency: Midface/Mandible Radiology Skills Lab
8th Annual ACAPS/ASPS Plastic Surgery Boot Camp
Sponsors: American Council of Academic Plastic Surgeons (ACAPS) & American Society of Plastic Surgeons (ASPS)
Center for the Future of Surgery, UCSD, San Diego, CA. August 20, 2022.
21. Session Chair: Gosman A (30 minutes)
Faculty: Hill M, Gosman A, Koretanger R, Leach G, Suliman A, Tong S, Lance S, Rodriguez J, Reid C, Llaneras J, **Vyas RM**, Dean R, Leis A, Engler K.
Session Title: Block 6, Clinical Competency: Injectables and Fillers
8th Annual ACAPS/ASPS Plastic Surgery Boot Camp
Sponsors: American Council of Academic Plastic Surgeons (ACAPS) & American Society of Plastic Surgeons (ASPS)
Center for the Future of Surgery, UCSD, San Diego, CA. August 21, 2022.
22. Panel Chair: **Vyas RM** (60 minutes)
Panelists: Hamdan US, Cintra H, Persson M, Mabry K, Gonsoulin C, Kassam S
Panel Title: Fundamentals of Comprehensive Cleft Care
5th International Comprehensive Cleft Care Workshop (CCCW).
Rio de Janeiro, Brazil. October 11, 2022.
23. Panel Chair: **Vyas RM** (90 minutes)
Panelists: Santiago P, Kummer A, Perez-Dosal M, Freitas R, Hamdan US, Bennun R, Chen P, Collares M.
Panel Title: Primary Bilateral Nasolabial Repair
5th International Comprehensive Cleft Care Workshop (CCCW).
Rio de Janeiro, Brazil. October 11, 2022.
24. Panel Chairs: Losee J, Kummer A (60 minutes)
Panelists: **Vyas RM**, Losee J, Kummer A, Flores R, Mark H, Grayson B, Kassam S, Persson M
Panel Title: Cleft Lip Interdisciplinary Round Table Discussion
5th International Comprehensive Cleft Care Workshop (CCCW).
Rio de Janeiro, Brazil. October 11, 2022.
25. Summit Chairs: **Vyas RM** and Losee J (90 minutes)
Invited Attendees: All 60 Invited CCCW Faculty
Summit Title: Reaching Consensus on Speech Surgery for Velopharyngeal Insufficiency
1st Annual Global Cleft Summit, held within the
5th International Comprehensive Cleft Care Workshop (CCCW).
Rio de Janeiro, Brazil. October 11, 2022.
26. Workshop Chair: Hamdan US (120 minutes)
Workshop Faculty: Shuster L, Gillett D, Swanson J, **Vyas RM**, Hamdan US
Workshop Title: Wellness Workshop for Cleft Providers
5th International Comprehensive Cleft Care Workshop (CCCW).

Rio de Janeiro, Brazil. October 14, 2022.

27. Panel Chair: Swanson J (70 minutes)
Panelists: Johnson A, Kassam S, Batra P, Gillett D, **Vyas RM**, Madaree A, Swanson J,
Panel Title: Advancing Outreach Care in Low-Resource Settings
5th International Comprehensive Cleft Care Workshop (CCCW).
Rio de Janeiro, Brazil. October 14, 2022.
28. Panel Chair: Yamada A (60 minutes)
Panelists: **Vyas RM**, Garvey P, Maclellan R, Yamada A.
Panel Title: Cutting Edge Innovations in Technology: Changing the Way we Provide Care
World Society for Simulation Surgery (WSSS), held within the
91st Annual Meeting of the American Society of Plastic Surgeons (ASPS)
Boston, MA. Oct 27, 2022.
29. Panel Chair: Mount D (120 minutes)
Panelists: **Vyas RM**, Flores R, Swanson J, McIntyre J.
Panel Title: Cleft Lip Repair at Home and Abroad
91st Annual Meeting of the American Society of Plastic Surgeons (ASPS)
Boston, MA. Oct 28, 2022.
30. Panel Chair: Jeffers L (60 minutes)
Panelists (Judges): Egan R, Gusenoff J, King T, Kinney B, McClellan W, Perry B, Pet M, Ray E,
Sacks J, Shen C, Spiegel A, **Vyas RM**
Panel Title: The Tank: Plastic Surgery Innovation Challenge
91st Annual Meeting of the American Society of Plastic Surgeons (ASPS)
Boston, MA. Oct 28, 2022.
31. Session Chairs: Gosman A, Pusic A, McIntyre J, **Vyas RM**, & Rohde C (60 minutes)
Faculty: Gosman A, Pusic A, McIntyre J, **Vyas RM**, & Rohde
Panel Title: ASPS SHARE Welcome and International Reception
91st Annual Meeting of the American Society of Plastic Surgeons (ASPS)
Boston, MA. Oct 28, 2022.
32. Panel Chairs: Gosman A, Pusic A, McIntyre J, **Vyas RM**, & Rohde C (90 minutes)
Panelists: Ntirenganya F, Furaha C, Gosman A, Pusic A, Abebe M, Nezerwa Y, McIntyre J, **Vyas RM**, Rohde C, Davis G, Blum J
Panel Title: SHARE: Building a Global Surgery Workforce
91st Annual Meeting of the American Society of Plastic Surgeons (ASPS)
Boston, MA. Oct 29, 2022.
33. Panel Chair: Snyder-Warwick A, Gastman B (90 minutes)
Panelists: Chang E, Cederna P, Gordillo G, Hanson S, King T, Mathes D, Matros E, Momoh A,
Myckatyn T, Orgill D, Pusic A, Sears E, Taub PJ, **Vyas RM**, Waljee J, Wong A.
Panel Title: PSF Grant Application Mentoring Session
91st Annual Meeting of the American Society of Plastic Surgeons (ASPS)
Boston, MA. Oct 29, 2022.

34. Workshop Chair: **Vyas RM**
Workshop Faculty: **Vyas RM**, Evans RD, McIntyre J.
Workshop Title: Facial Fracture Plating Workshop (Sponsor: KLS Martin)
Initiative of the American College of Surgeons (ACS) and Surgeons for Humanitarian Alliance in Reconstruction Research and Education (SHARE).
Military Hospital of Rwanda, Kigali, Rwanda. March 13, 2023.
35. Panel Chair: Jeffers L (55 minutes)
Panelists: **Vyas RM**, Maclellan R, Ray E.
Panel Title: Hot Topics in Technology – Beyond Reality
101st Annual Meeting of the American Association of Plastic Surgeons (AAPS)
Chicago, IL. May 1, 2023
36. Panel Chairs: **Vyas, RM** and Hartman E (60 minutes)
Panelists: **Vyas RM** and Hartman E.
Panel Title: Staying Present - Morning Yoga I
73rd Annual Meeting of the California Society of Plastic Surgeons (CSPS)
San Francisco, CA. May 27, 2023
37. Session Moderator: **Vyas RM** (120 minutes)
Session Title: Pinot, Pearls and ePosters – Craniofacial/Head and Neck
73rd Annual Meeting of the California Society of Plastic Surgeons (CSPS)
San Francisco, CA. May 27, 2023
38. Panel Chairs: **Vyas, RM** and Hartman E (60 minutes)
Panelists: **Vyas RM** and Hartman E.
Panel Title: Staying Present - Morning Yoga II
73rd Annual Meeting of the California Society of Plastic Surgeons (CSPS)
San Francisco, CA. May 28, 2023
39. Panel Chairs: Gosman A and **Vyas RM** (60 minutes)
Panelists: **Vyas RM**, Sigler A, Rose J, Gosman A.
Panel Title: Plastic Surgery Opportunities for Global Humanitarianism
73rd Annual Meeting of the California Society of Plastic Surgeons (CSPS)
San Francisco, CA. May 28, 2023
40. Panel Chairs: **Vyas RM** and Browd S (105 minutes)
Panelists: Hallgrimsson B, Nishimoto S, Goldstein J, Sayadi L, Jeelani O, Metzger M, Mueller A.
Panel Title: Artificial Intelligence (AI) in Craniofacial Surgery: Data and Decision-Making
20th International Congress of the International Society of Craniofacial Surgeons (ISCFS)
Seattle, WA, USA. September 5-8, 2023 (Pre-Congress Symposium: Sept 5).
41. Panel Chairs: **Vyas RM** and Browd S (85 minutes)
Panelists: Flores R, Browd S, El Amm C, **Vyas RM**
Panel Title: Extended Reality in Craniofacial Surgery: Surgical Planning, Knowledge/Skill Transfer, and Intraoperative Guidance
20th International Congress of the International Society of Craniofacial Surgeons (ISCFS)
Seattle, WA, USA. September 5-8, 2023 (Pre-Congress Symposium: Sept 5).

42. Panel Chairs: **Vyas RM** and Browd S (85 minutes)
Panelists: Douglas R, Phillips S, Vidian A, Gardner M, Banerjee J.
Panel Title: Fireside Chat - From Ideas to Creation: Navigating VC, IP, and the FDA.
20th International Congress of the International Society of Craniofacial Surgeons (ISCFS)
Seattle, WA, USA. September 5-8, 2023 (Pre-Congress Symposium: Sept 5).
43. Judges: **Vyas RM**, Shetye P, Kapadia H.
Best Poster Competition
20th International Congress of the International Society of Craniofacial Surgeons (ISCFS)
Seattle, WA, USA. September 7, 2023
44. Panel Chair: **Vyas RM** (60 minutes)
Panelists: Rumsey N, Benbow H, Gonsoulin C, Kassam S, Kreps B.
Panel Title: Fundamentals of Comprehensive Cleft Care: A Holistic Approach
6th International Comprehensive Cleft Care Workshop (CCCW).
Barcelona, Spain. October 10, 2023.
45. Panel Chair: Santiago PE (80 minutes)
Panelists: **Vyas RM**, Hamdan US, Chong D, Breugem C, Tse R, Chen P, Grayson B.
Panel Title: Primary Unilateral Nasolabial Repair (Surgery & Dental Combined Breakout)
6th International Comprehensive Cleft Care Workshop (CCCW).
Barcelona, Spain. October 10, 2023.
46. Panel Chair: **Vyas RM** (60 minutes)
Panelists: Santiago PE, Rogers-Vizena C, Chen P, Kummer A, Meazzini M, Benbow H.
Panel Title: Primary Bilateral Nasolabial Repair: Integrated Team Approach
6th International Comprehensive Cleft Care Workshop (CCCW).
Barcelona, Spain. October 10, 2023.
47. Summit Chairs: **Vyas RM** and Losee J (120 minutes)
Invited Attendees: All 74 Invited CCCW Faculty
Summit Title: 2nd Annual Cleft Summit: A Sustainable Roadmap for Patient-Centered
Interdisciplinary Cleft Care: The Role of the NGO.
2nd Annual Global Cleft Summit, held within the
6th International Comprehensive Cleft Care Workshop (CCCW).
Barcelona, Spain. October 10, 2023.
48. Workshop Chair: **Vyas RM** (45 minutes)
Workshop Title: Wake Up & Stretch! Yoga for Cleft Providers
6th International Comprehensive Cleft Care Workshop (CCCW).
Barcelona, Spain. October 11, 2023.
49. Workshop Chair: Liao J (120 minutes)
Workshop Title: Cleft Palate Surgical Simulation Lab
Workshop Faculty: Liao J, Mann R, Rogers-Vizena C, Runyan C, Swanson J, **Vyas RM**.
6th International Comprehensive Cleft Care Workshop (CCCW).
Barcelona, Spain. October 11, 2023.

50. Workshop Chairs: Mann R and Rubio J (120 minutes)
Workshop Title: Palatal Fistula Surgical Simulation Lab
Workshop Faculty: Mann R, Rubio J, Swanson JW, Vijayakumar C, **Vyas RM**, Zopf D.
6th International Comprehensive Cleft Care Workshop (CCCW).
Barcelona, Spain. October 12, 2023.
51. Panel Chair: **Vyas RM** (70 minutes)
Panelists: Swan M, Nadjmi N, Batra P, Benitez B, Zopf D, Gillett D, Rubio J.
Panel Title: Innovations in Cleft Care: From Robotics to AI
6th International Comprehensive Cleft Care Workshop (CCCW).
Barcelona, Spain. October 13, 2023.
52. Panel Chair: Swanson JW (40 minutes)
Panelists: Johnson A, Kassam S, **Vyas RM**, Swanson J, Ayala R.
Panel Title: Advancing Outreach Care in Low-Resource Settings
6th International Comprehensive Cleft Care Workshop (CCCW).
Barcelona, Spain. October 13, 2023.
53. Panel Chair: Baker S (60 minutes)
Panelists: **Vyas RM**, Ettinger R, Harshbarger R.
Panel Title: Craniofacial Trauma
“Dog Bite Injuries in Adults and Children: New Insights into an Old Problem”
Plastic Surgery the Meeting 2023, American Society of Plastic Surgeons (ASPS)
Austin, TX. October 26, 2023.
54. Panel Chairs: **Vyas RM** and Shakir S (60 minutes)
Panel: Top Resident Abstract Presentations: Aesthetic & Maxillofacial
Plastic Surgery the Meeting 2023, American Society of Plastic Surgeons (ASPS)
Austin, TX. October 27, 2023.
55. Panel Chairs: Gosman A, Pusic A (120 minutes)
Panelists: Gosman A, Pusic A, McIntyre J, Baraki A, **Vyas R**, Rohde C, Thompson N, Nthumba P, Ehighibe A, Corridi M, Bahar BG.
Panel Title: Forged on the Continent: SHARE and Plastic Surgery Training in Africa
Plastic Surgery the Meeting 2023, American Society of Plastic Surgeons (ASPS)
Austin, TX. October 28, 2023.
56. Panel: Plastic Surgery Innovation Challenge (60 minutes)
Contestants: **Vyas RM**, Golinko M.
“Intelligent Medical Illuminations: Spatial Augmented Reality for Remote Surgical Guidance”
Plastic Surgery the Meeting 2023, American Society of Plastic Surgeons (ASPS)
Austin, TX. October 28, 2023.
57. Panel Chairs: **Vyas RM** and Gangopadhyay N (60 minutes)
Panel: Scientific Abstract Presentations: Craniomaxillofacial 8
Plastic Surgery the Meeting 2023, American Society of Plastic Surgeons (ASPS)
Austin, TX. October 29, 2023.

58. Panel Chairs: Koh KS and Lew DH (60 minutes)

Panelists: **Vyas RM**, Denadai R, Oh TS.

Panel Title: Craniofacial 2: New Horizons of Cleft Lip Repair Technique

“Harnessing the Power of AI to Teach Cleft Lip Surgery”

PRS Korea 2023

Seoul, South Korea. Nov 10, 2023.

59. Panel Chairs: Heo CY and Lee JY (60 minutes)

Panelists: **Vyas RM**, Kim R, Kong HJ, Ryu JY.

Panel Title: 4th Industrial Revolution: AI

“Combining Extended Reality and Artificial Intelligence to Remotely Build Plastic Surgery Skill and Capacity”

PRS Korea 2023

Seoul, South Korea. Nov 10, 2023.

Scientific Meetings Organized

1. Program Co-Chairs: **Vyas RM** and Losee J.

5th International Comprehensive Cleft Care Workshop (CCCW)

Co-Sponsors: Smile Train, Inc & Global Smile Foundation

Rio de Janeiro, Brazil. October 11-14, 2022.

2. Pre-Congress Symposium Co-Chairs: **Vyas RM** and Browd S.

“Artificial Intelligence (AI) and Extended Reality (XR): The Future of Craniofacial Surgery,”

20th International Congress of the International Society of Craniofacial Surgeons (ISCFS)

Seattle, WA, USA. September 5-8, 2023 (Pre-Congress Symposium: Sept 5).

3. Program Co-Chairs: **Vyas RM** and Losee J.

6th International Comprehensive Cleft Care Workshop (CCCW)

Sponsor: Global Smile Foundation

Barcelona, Spain. October 10-13, 2023.

PUBLICATIONS

Peer-Reviewed Journals

1. **Vyas RM**, Small PM, DeRiemer K. The Private-Public divide: Impact of Conflicting Perceptions

Between the Private and Public Health Care Sectors in India. *Int J Tuberc Lung Dis*.

2003;7(6):543-9.

2. Jefferis GSXE, **Vyas RM**, Berdnik D, Stocker RF, Tanaka NK, Ito K, Luo L. Developmental Origin of Wiring Specificity in the Olfactory System of *Drosophila*. *Development*.

2004;131(1):117-30.

3. Odum J, **Vyas RM**, Laks H, Alikhani A, Mehta U, Hughes K. Redo Submammary Incision for Median Sternotomy and Cardiac Repair. *Ann Thorac Surg.* 2005;79(1):163-7.
4. SooHoo NF, Samimi DB, **Vyas RM**, Botzler T. Evaluation of the validity of the Foot Function Index in measuring outcomes in patients with foot and ankle disorders. *Foot Ankle Int.* 2006;27(1):38-42.
5. SooHoo NF, **Vyas RM**, Samimi D. Responsiveness of the Foot Function Index, AOFAS Clinical Rating Systems, and SF-36 after foot and ankle surgery. *Foot Ankle Int.* 2006;27(11):930-4.
6. Cohen O, Odum J, De la Zerda D, **Vyas RM**, Vyas N, Ukatu C, Palatnik K, Laks H. Long-Term Experience of Girdling the Ascending Aorta with Dacron Mesh as Definitive Treatment for Aneurysmal Dilation. *Ann Thorac Surg.* 2007;83:S780-4.
7. Alanay A, **Vyas RM**, Shamie AN, Scioscia T, Randolph G, Wang JC. Safety and Efficacy of Implant Removal for Patients with Recurrent Back Pain after a Failed Degenerative Lumbar Spine Surgery. *J Spinal Disord Tech.* 2007;20(4):271-7.
8. Soohoo NF, **Vyas RM**, Samimi DB, Molina R, Lieberman JR. Comparison of the responsiveness of the SF-36 and WOMAC in patients undergoing total hip arthroplasty. *J Arthroplasty.* 2007;22(8):1168-73.
9. **Vyas RM**, Keagle JN, Wexler A, Cahan L, Kawamoto HK, Lazareff J, Wasson KL, Bradley JP. Unilateral vision impairment from a carotid-cavernous fistula after a monobloc osteotomy in a patient with Apert Syndrome. *J Craniofac Surg.* 2007;18(4):960-5.
10. **Vyas RM**, Dipple KM, Head C, Wald SH, Wasson KL, Gabbay JS, Tahernia A, Bradley JP. Management of neonatal upper airway obstruction: Decreased morbidity by utilizing a decision tree model with mandibular distraction osteogenesis. *J Neonatal Perinatal Med.* 2008(1);1:21-29.
11. **Vyas RM**, Dickinson BP, Wasson KL, Roostaeian J, Bradley JP. Pediatric facial fractures: current national incidence, distribution, and health care resource use. *J Craniofac Surg.* 2008;19(2):339-49.
12. **Vyas RM**, Dickinson BP, Fastekjian JH, Watson JP, Dalio AL, Crisera CA. Risk factors for abdominal donor-site morbidity in free flap breast reconstruction. *Plast Reconstr Surg.* 2008;121(5):1519-26.
13. **Vyas RM**, Jarrahy R, Sisodia M, Jourabchi N, Wasson KL, Bradley JP. Bone-borne palatal distraction to correct the constricted cleft maxilla. *J Craniofac Surg.* 2009;20(3):733-6.
14. **Vyas RM***, Erba P*, Ogawa R*, Orgill DP. The Reconstructive Matrix: A New Paradigm in Reconstructive Plastic Surgery. *Plast Reconstr Surg.* 2010;126(2):492-8.*co-first authors. With discussion.
15. **Vyas RM**, Pomahac B. Use of a Bilobed Gracilis Myocutaneous Flap in Perineal and Genital Reconstruction. *Ann Plas Surg.* 2010;65(2):225-7.

16. Kohan E, Hazany S, Roostaeian J, Allam K, Head C, Wald S, **Vyas R**, Bradley JP. Economic advantages to a distraction decision tree model for management of neonatal upper airway obstruction. *Plast Reconstr Surg*. 2010;126(5):1652-64.
17. **Vyas RM**, Ready JE, Guo L. Use of a retrograde pedicled double-barreled osteocutaneous fibula flap for reconstruction of distal tibia and soft-tissue defects. *Plast Reconstr Surg*. 2011;127(6):173-5e.
18. Pomahac B, Nowinski D, Diaz-Siso JR, Bueno EM, Talbot SG, Sinha I, Westvik TS, **Vyas R**, Singhal D. Face Transplantation. *Curr Probl Surg*. 2011; 48(5): 293-357.
19. **Vyas RM***, Eberlin KR*, Abi-Haidar Y, Sethna N, Hamdan UH. Adult Cleft Lip Repair Under Local Anesthesia: An Effective Technique in Resource-Poor Settings. *Cleft Palate-Craniofac J*. 2013;50(1):59-63. *co-first authors
20. **Vyas RM**, Prsic A, Orgill DP. Transdiaphragmatic Omental Harvest: A Simple, Efficient Method for Sternal Wound Coverage. *Plast Reconstr Surg*. 2013;131(3):544-52. With discussion.
21. **Vyas RM**, Eberlin KR, Hamdan US. Implementation of an Emergency Response Protocol for Overseas Surgical Outreach Initiatives. *Plast Reconstr Surg*. 2013;131(4):631-6e.
22. **Vyas RM**, Orgill DP. Reply: Transdiaphragmatic omental harvest: A simple, efficient, method for sternal wound coverage. *Plast Reconstr Surg* 2013; 132(6): 1074e.
23. Patel KG, Eberlin KR, **Vyas RM**, Hamdan US. Use of Safety Measures, Including the Modified World Health Organization Surgical Safety Checklist, During International Outreach Cleft Missions. *Cleft Palate-Craniofacial J*. 2014; 51(5): 597-604.
24. **Vyas RM**, Warren SM. Unilateral Cleft Lip Repair. *Clin Plast Surg* 2014; 41(2): 165-77.
25. **Vyas RM**, Alperovich M, Spano M, Staffenberg DA. The Adorability of the Ipsilateral Oblique View in Unicoronal Craniosynostosis: A Silver Lining for Families. *Plastic Reconstr Surg* 2014; 134(2): 339-41.
26. **Vyas RM**, Alperovich M, Grayson BH, McCarthy JG, Rodriguez ED. From multidisciplinary to interdisciplinary to transdisciplinary care: An evolution in craniofacial surgery. *Plastic Reconstr Surg* 2015; 135(4): 796-7.
27. Alperovich M, **Vyas RM**, Staffenberg DA. Is craniosynostosis repair keeping up with the times? Results from the largest national survey of craniofacial surgeons. *J Craniofacial Surg* 2015; 26(6): 1909-13.
28. **Vyas RM**, Kim DP, Padwa BL, Mulliken JB. Primary Premaxillary Setback and Repair of Bilateral Complete Cleft Lip: Indications, Technique, and Outcomes. *Cleft Palate-Craniofacial J* 2016; 53(3): 302-8.
29. **Vyas RM**, Sinha I, Pribaz JJ. A Subunit Approach for Management of Severe Rhinophyma. *J Am Soc Maxillofacial Surg* 2016 Nov; 1(3): 26-9.

30. Alperovich M, Frey JD, Shetye PR, Grayson BH, **Vyas RM**. Breast Milk Feeding Rates in Patients with Cleft Lip and Palate at a North American Craniofacial Center. *Cleft Palate-Craniofacial J* 2017 May; 54(3): 334-7.
31. Hassanein AH, **Vyas RM**, Erdmann-Sager J, Catterson EJ, Pribaz JJ. Management of Rhinophyma: Outcomes Study of the Subunit Method. *J Craniofacial Surg* 2017 May; 28(3): e247-250.
32. Lee CJ, Santos PJF, **Vyas RM**. Epidemiology, Socioeconomic Analysis, and Specialist Involvement in Dog Bite Wounds in Adults: A Retrospective Analysis at a Level 1 Trauma Center. *J Craniofacial Surg* 2019 May/June; 30(3): 753-7.
33. Sayadi LR, Naides A, Eng M, Fijany A, Chopan M, Sayadi JJ, Shaterian A, Banyard DA, Evans GRD, **Vyas RM**, Widgerow AD. The New Frontier: A Review of Augmented Reality and Virtual Reality in Plastic Surgery. *Aesthetic Surg J*. 2019 Aug; 39(9): 1007-16.
34. Mueller MA, Kanack MD, Singh J, Jaffurs D, **Vyas RM**. Pediatric mandible reconstruction for osteomyelitis during largest reported *Mycobacterium abscessus* outbreak. *J Craniofacial Surg* 2020 Jan/Feb; 31(1): 274-7.
35. Sinha S, Entezampour M, Davis KA, **Vyas RM**. Clinically Applied Anatomy: An Impactful Initiative in the Evolution of Medical Education.” *Annals of Plastic Surgery* 2020 May 84(5): 476-80.
36. Hu J, Guan A, Zhangli Q, Sayadi L, Hamdan U, **Vyas RM**. Harnessing Machine-learning to Personalize Cleft Lip Markings. *Plastic and Reconstructive Surgery - Global Open* 2020; 8(95): 150-1.
37. **Vyas RM**, Sayadi R, Bendit D, Hamdan US. Using Virtual Augmented Reality to Remotely Proctor Overseas Surgical Outreach: Building Long-Term International Capacity and Sustainability. *Plastic & Reconstructive Surgery* 2020 Nov 146(5): 622-9.
38. Chahine EM, Kantar RS, Kassam SN, **Vyas RM**. Ghotmi LH, Haddad AG, Hamdan US. Sustainable cleft care: A comprehensive model based on the Global Smile Foundation experience. *Cleft Palate Craniofacial Journal* 2021 May 58(5): 647-52.
39. Shah N, Castro R, Attaripour Isfahani SN, **Vyas RM**. Cost-effectiveness of Erenumab Versus Surgical Trigger Site Deactivation for the Treatment of Migraine Headaches: A systematic Review. *J Craniofacial Surgery* 2021 June 32(4): e398-401.
40. Castro R, Tsutsumi K, Sayadi JJ, Hu J, **Vyas RM**, Sayadi LR. Plastic Surgery and Music: Examining Plastic Surgery References in Hit Songs. *Plastic & Reconstructive Surgery Global Open* 2021 Jun 9(6): e3620.
41. Hu A, Lee C, Hsu F, **Vyas RM**. Extensive Polyostotic Craniofacial Fibrous Dysplasia with Optic Nerve Impingement. *J Craniofacial Surgery* 2021 July-Aug; 32(5): e435-7.

42. Sayadi LR, Chopan M, Sayadi JJ, Samai A, Arora JS, Anand S, Evans G, Widgerow AD, **Vyas R**. Operating Room Stencil: A Novel Mobile Application for Surgical Planning. *Plastic & Reconstructive Surgery Global Open* 2021 Sep 9(9): e3807.
43. Lee CJ, Tiourin E, Schuljak S, Phan J, Heyming TW, Schomberg J, Wallace E, Guner YS, **Vyas RM**. Surgical Treatment of Pediatric Dog Bite Wounds: A 5-Year Retrospective Review. *West J Emerg Med* 2021 Oct 22(6):1301-10.
44. Santos P, Omotayo A, **Vyas RM**. Interdisciplinary Considerations for Nasolabial Repair During a Global Pandemic. *Cleft Palate Craniofacial Journal* 2021 Nov 58(11): 1341-7.
45. Kanack M, Nakra N, Ahmad I, **Vyas RM**. Normal Neonatal Sleep Defined: Refining Patient Selection and Interpreting Sleep Outcomes for Mandibular Distraction. *Plastic & Reconstructive Surgery Global Open*. 2022 Jan 10(1):4031
46. Khoshab N, Donnelly MR, Sayadi LR, **Vyas RM**, Banyard DA. Historical Tools of Anthropometric Facial Assessment: A Systematic Raw Data Analysis on the Applicability of the Neoclassical Canons and Golden Ratio. *Aesthetic Surgery Journal* 2022 Jan 42(1): NP1-10.
47. Sayadi LR, Hamdan US, ZhangLi Q, Hu J, **Vyas RM**. Harnessing the Power of Artificial Intelligence to Teach Cleft Lip Surgery. *Plastic & Reconstructive Surgery Global Open*. 2022 July 10(7): e4451.
48. Chahine EM, Shah ND, Al Abyad OS, **Vyas RM**, Hamdan US. Emergency Response Protocols for Overseas Outreach Settings: Global Smile Foundation Strategy. *Cleft Palate Craniofacial Journal* 2022 Aug; 59(8): 1086-91.
49. Al Abyad OS, Annan B, Melhem A, Chahine EM, Ramly EP, **Vyas RM**, Hamdan US. Application of Safety Protocols for International Cleft Outreach Programs During the COVID-19 Pandemic: Global Smile Foundation Precaution Guidelines and Implications. *Cleft Palate Craniofacial Journal* 2021 Dec 17. Online ahead of print.
50. Melhem AM, Ramly EP, Al-Abyad O, Chahine EM, Teng S, **Vyas RM**, Hamdan US. Enhanced Recovery after Cleft Lip Repair: Protocol Development and Implementation in Outreach Settings. *Cleft Palate Craniofacial Journal* 2022 Feb 15. Online ahead of print.
51. Kantar RS, Esenlik E, Al Abyad OS...**Vyas RM**, Flores RL, Breugem CC, Hamdan US. The First Hybrid Educational Comprehensive Cleft Care Workshop. *Cleft Palate Craniofacial Journal* 2022 May 9. Online ahead of print.
52. Resnick CM, Rottgers A, Wright JM, **Vyas RM**, Goldstein JA, Swanson JW, Padula MA, Coghill C, Ahmad I, Molter DW, Menezes M, Cielo C. Surgical Outcome and Treatment Trends in 1289 Infants with Micrognathia: A Multicenter Cohort. *Plastic & Reconstructive Surgery*. Accepted March 2023.
53. Alaniz L, Vu C, Arora J, Stulginski A, Zhu X, Cordero J, **Vyas RM**, Pfaff MJ. Effective Local Anesthetic Use in Nasal Surgery: A Systematic Review

54. Lee CJ, Tiourin E, Khoshab N, Leis AR, Nassif NA, **Vyas RM**. Factors that influence outcomes of vascularized fibular epiphyseal transfer for microsurgical pediatric limb salvage. *PRS Global Open*.

Book Chapters

1. **Vyas RM**. *Drosophila Antennal Lobe Development: Origin of Highly Specific Dendritic and Axonal Innervation Patterns in the Olfactory System*. Honors Thesis. Dept. of Biologic Sciences, Stanford University Biological Sciences Library. 2003: 1-44.
2. Eberlin KR, **Vyas RM**, Patel KB, Hamdan US. "Chapter 1: Anatomy and Embryology of Cleft Lip and Palate." *Video Atlas of Cleft Lip and Palate Surgery*. Pgs 3-7. Ed: Rogers, Hartnick, & Hamdan. San Diego: Plural Publishing Inc., 2013. Print.
3. **Vyas RM**, Eberlin KR, Patel KB, Hamdan US. "Chapter 3: International Surgical Outreach Initiatives: Planning, Execution, and Safety." *Video Atlas of Cleft Lip and Palate Surgery*. Pgs 17-38. Ed: Rogers, Hartnick, & Hamdan. San Diego: Plural Publishing Inc., 2013. Print.
4. Patel KB, Eberlin KR, **Vyas RM**, Hamdan US. "Chapter 5: Anthropometry: Evaluation and Planning." *Video Atlas of Cleft Lip and Palate Surgery*. Pgs 53-55. Ed: Rogers, Hartnick, & Hamdan. San Diego: Plural Publishing Inc., 2013. Print.
5. **Vyas RM**. "Facial Trauma." *Plastic and Reconstructive Surgery – A Comprehensive Review*. Ed: Orgill D. Oakstone Publishing, LLC, 2016. <http://www.myoakstone.com/>
6. Sinha I, **Vyas RM**, Pomahac B. "Chapter 45: Specialized Burn Care: Face transplantation." *Oxford Specialist Handbooks in Surgery: Burns*. Ed: Whitaker, Shokrollahi, & Dickson. Oxford University Press, 2019. Print.
7. Lee CJ, **Vyas RM**. "Chapter 32: Nasal Fractures." *Operative Plastic Surgery, 2nd Ed*. Pgs 317-28. Ed: Evans GE. New York, Oxford University Press, 2019. Print.
8. Moore R, **Vyas RM**. "Chapter 58: Orthognathic Surgery." *Operative Plastic Surgery, 2nd Ed*. Pgs 609-22. Ed: Evans GE. New York, Oxford University Press, 2019. Print.
9. **Vyas RM**, Patty L, Mowlds D. "Chapter 51: Pharyngeal Flap." *Operative Plastic Surgery, 2nd Ed*. Ed: Evans GE. New York, Oxford University Press, 2019. Print.
10. Mowlds D, **Vyas RM**. "Chapter 52: Sphincter Pharyngoplasty." *Operative Plastic Surgery, 2nd Ed*. Ed: Evans GE. Pgs 535-40. New York, Oxford University Press, 2019. Print.
11. Mattison G, **Vyas RM**. "Chapter 12: Alveolar Bone Grafting" *Operative Plastic Surgery, 2nd Ed*. Pgs 95-98. Ed: Evans GE. New York, Oxford University Press, 2019. Print.
12. Mattison G, **Vyas RM**. "Chapter 8: Cranial Bone Grafting" *Operative Plastic Surgery, 2nd Ed*. Pgs 73-78. Ed: Evans GE. New York, Oxford University Press, 2019. Print.

13. Kanack M, Vijaykumar C, Hamdan US, **Vyas RM**. “Chapter 40: Local Cleft Care Partnerships.” *Global Cleft Care in Low-Resource Settings*, Eds: Swanson JW, Low DW. Springer, 2021. Print.
14. Kanack M, **Vyas RM**. “Chapter 10: Surgical Treatment of Chronic Migraine Headaches.” *Migraine: Emerging Innovations and Treatment Options*. Ed: Shah, S. Springer, 2021. Print.
15. Kanack M. **Vyas RM**, Zadeh T, Zadeh N. “Chapter 5: Genetic Counseling and Syndromic Considerations.” *Interdisciplinary Cleft Care: Global Perspectives*. Eds: Hamdan US, Rogers CV, **Vyas RM**, Sommerlad B, Low D. Plural Publishing Inc., 2022. Print.
16. **Vyas RM**. “Chapter 13: Rotation Advancement Repair – Mulliken Modification.” *Interdisciplinary Cleft Care: Global Perspectives*. Eds: Hamdan US, Rogers CV, **Vyas RM**, Sommerlad B, Low D. Plural Publishing Inc., 2022. Print.
17. Vijayakumar C, Chahine E, Kantar R, Shah N, Melhem A, Al-Abyad O, Jaffurs D, **Vyas RM**, Hamdan US. “Chapter 50: Planning and Execution of Overseas Outreach Programs.” *Interdisciplinary Cleft Care: Global Perspectives*. Eds: Hamdan US, Rogers CV, **Vyas RM**, Sommerlad B, Low D. Plural Publishing Inc., 2022. Print.
18. Chahine E, Ramly E, Marston A, **Vyas RM**, Hamdan US. “Chapter 51: Quality Assurance Guidelines for Cleft Outreach Programs.” *Interdisciplinary Cleft Care: Global Perspectives*. Eds: Hamdan US, Rogers CV, **Vyas RM**, Sommerlad B, Low D. Plural Publishing Inc., 2022. Print.
19. Chahine E, Melhem A, **Vyas RM**, Hamdan US. “Chapter 52: Safety and Emergency Preparedness During Overseas Outreach.” *Interdisciplinary Cleft Care: Global Perspectives*. Eds: Hamdan US, Rogers CV, **Vyas RM**, Sommerlad B, Low D. Plural Publishing Inc., 2022. Print.
20. Munoz Pareja J, Nader M, Melham A, Al-Abyad O, Hamdan US, Kantar R, Don Griot JPW, **Vyas RM**, Breugem C. “Chapter 53: The Future of Cleft Outreach: In Situ Simulation, Task Training, Augmented Reality, and Artificial Intelligence.” *Interdisciplinary Cleft Care: Global Perspectives*. Eds: Hamdan US, Rogers CV, **Vyas RM**, Sommerlad B, Low D. Plural Publishing Inc., 2022. Print.
21. Hamdan US, **Vyas RM**, Kantar R, Melhem A. “Chapter 56: Macrostomia: Functional and Aesthetic Repair.” *Interdisciplinary Cleft Care: Global Perspectives*. Eds: Hamdan US, Rogers CV, **Vyas RM**, Sommerlad B, Low D. Plural Publishing Inc., 2022. Print.

Books Authored or Edited

1. *Interdisciplinary Cleft Care: Global Perspectives*. Eds: Hamdan US, Rogers CV, **Vyas RM**, Sommerlad B, Low D. Plural Publishing Inc., 2022. Print.
2. Khoshab N, **Vyas RM**. *Cleft Lip & Palate*. Apple iBook. Published Sept 2020. Available also in Spanish as *Fisura Labiopalantina*.

Other Publications

1. Pamphlet: *Mandibular Distraction Osteogenesis*. CHOC Children’s Hospital. July 2020.

Patents

1. Inventors: **Vyas RM**, Sayadi LR. UC Irvine assignee.
Using Machine Learning and 3D Projection to Guide Medical Procedures
Technical Field, USA UOCR0142PRV-2021-961. 2021
Provisional Patent Filed: June 2021
Full Patent Filed: June 2022

PROFESSIONAL SOCIETIES

- 3/2006 – Present Alpha Omega Alpha Medical Honor Society (AOA)
- 6/2007 – Present American Society of Plastic Surgeons (ASPS)
- 5/2013 – Present American Cleft Palate-Craniofacial Association (ACPA)
- 5/2013 – Present International Cleft Lip and Palate Foundation (ICLPF)
- 9/2013 – Present American Society of Craniofacial Surgery (ASCFS)
- 3/2016 – Present American Society of Maxillofacial Surgeons (ASMS)
- 10/2019 – Present Fellow, American College of Surgeons (ACS)
- 11/2019 – Present Children’s Hospital Neonatal Consortium (CHNC)
- 5/2020 – Present American Council of Academic Plastic Surgeons (ACAPS)
- 2/2022 – Present American Association of Plastic Surgeons (AAPS)
- 4/2022 – Present California Society of Plastic Surgeons (CSPS)
- 6/2007 – 6/2013 Massachusetts Medical Society (MMS)

LICENSING AND CERTIFICATION EXAMS

- 6/2005 USMLE Step 1: Pass/99/270
- 1/2007 USMLE Step 2CK: Pass/99/256
- 2/2007 USMLE Step 2CS: Pass

6/2011 USMLE Step 3: Pass/97/227
10/2013 American Board of Plastic Surgery, Written Examination: Pass
11/2015 American Board of Plastic Surgery, Oral Examination: Pass

NIH BIOGRAPHICAL SKETCH

NAME: Raj M. Vyas

POSITION TITLE: Professor of Plastic Surgery and Neurosurgery, UC Irvine School of Medicine

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Stanford University (Stanford, CA)	B.S.	06/2003	Biological Sciences Economics (minor)
UCLA (Los Angeles, CA)	M.D.	06/2007	Medicine
Harvard Medical School (Boston, MA)		06/2013	Plastic & Reconstructive Surgery (Residency)
New York University (New York, NY)		06/2014	Craniofacial Surgery (Fellowship)

A. Personal Statement

I am well-equipped to be PI and lead the clinical component of this study. I am a fellowship trained craniofacial surgeon who has studied the use of virtual and augmented reality technologies to teach and guide craniofacial surgery for nearly a decade. I have given dozens of national and international talks and authored numerous publications and chapters on this particular subject. I am Chief of Pediatric Plastic Surgery at Children's Hospital of Orange County (CHOC), Vice-Chair of the Plastic Surgery Department at UC Irvine, and Fellowship Director for UCI/CHOC's ACGME-accredited Craniofacial Surgery Fellowship. I lead CHOC's cleft/craniofacial multidisciplinary teams and perform over 150 craniofacial procedures each year.

I am passionate about building global capacity for cleft/craniofacial care, especially for the world's most vulnerable populations. I recently published, along with renown co-editors, *Interdisciplinary Cleft Care: Global Perspectives* (Plural Publishing).¹ I serve as Co-Director of Research for the SHARE program (Surgeons in Humanitarian Alliance for Reconstruction, Research & Education), which leverages the immense educational, financial, and human capital of the world's largest plastic surgery societies (American Society of Plastic Surgeons and Plastic Surgery Foundation) to build plastic surgery capacity in low and middle-income countries (LMICs). I Co-Direct Global Smile Foundation's (GSF)'s International Research Fellowship and am a leader in using workshops, simulation and technology to build sustainable overseas capacity for cleft care. For the past four years, I have served on the planning committee for the annual International Comprehensive Cleft Care Workshop (CCCW) which is co-hosted by Smile Train and GSF. I was Program Chair for last year's CCCW in Rio de Janeiro and this year's CCCW in Barcelona (over 600 registrants from five dozen countries).

I am Co-Chair of this year's Pre-Congress Symposium at the 20th biennial meeting of the International Society of Craniofacial Surgeons (ISCFS) in Seattle, WA. "Artificial Intelligence and Extended Reality: The Future of Craniofacial Surgery" will feature 20 invited pioneers and leaders in this space for an interdisciplinary symposium and hands-on tech fair.² I have extensively studied how augmented reality (AR) and artificial intelligence (AI) technologies can facilitate knowledge/skill transfer and allow virtual remote expert guidance in the operating room (OR). Our team pioneered a tablet-based AR system that creates a remote yet "hands-on" virtual interactive presence to remotely guide overseas cleft surgical learners in the OR.³ In that study, AR was used as an adjunct to in-location training and significantly accelerated the transfer of cleft knowledge and skill, ultimately building sustainable regional capacity for cleft care. Working with computer scientists and GSF, I also led the development of the first facial cleft detection AI algorithm^{4,5} and am Co-Inventor of a patent on the use of AI to guide surgical procedures.⁶ To build upon this progress, I have partnered with the industry-leading projection technology pioneers (Summit Technology Laboratory) to develop a proof-of-concept prototype that integrates their patented advances in projection-based augmented reality (PAR) with innovative methods in artificial intelligence (AI)⁶ to remotely and intelligently guide surgery.⁷ This proposal seeks to develop critical features needed to translate our transformative device for efficient and practical use in the OR. Our

interdisciplinary team combines recognized leaders in medicine, computer science, and engineering (from both industry and academia) with extensive records of achievement in building surgical capacity, PAR, and AI.

I am an active leader in our Department's Center for Tissue Engineering and routinely collaborate with industry to bring new products from the laboratory to the clinical arena. I am a leader at UC Irvine's Medical Innovations Institute that translates phase I research into grants, patents, and life-improving products. Recently, I was awarded one of 20 university-wide Faculty Fellowships from UCI's Beall Applied Innovations Institute. Through this, I have accessed business, law, and engineering mentors, experienced grant officers, and seasoned venture capitalist to inform this proposal and formulate plans for product commercialization.

I have secured enthusiastic partnership from Smile Train – the world's leading and most impactful cleft outreach organization – to adopt, refine, and support the development of our proposed device. For this study, I formed the California Craniofacial Collaborative (CCC), a regional network of all senior academic cleft/craniofacial surgeons who are excited to test and refine this product. I am keenly aware of the vital importance of both frequent communication with the research team and project collaborators as well as the need to construct a realistic research plan, timeline, and budget to ensure study success. In summary, I have demonstrated a record of accomplishment in an area of high importance to a vulnerable patient population. My expertise and experience prepare me well to be PI for the proposed project.

Research Products Cited:

1. Interdisciplinary Cleft Care: Global Perspectives. Eds: Hamdan US, Rogers CV, **Vyas RM**, Summerlad B, Low D. Plural Publishing, Inc. August 2022. Print.
2. Accessed last 8/1/2023: <https://www.iscfs-2023.com/pre-congress-symposium>
3. **Vyas RM**, Sayadi LR, Bendit D, Hamdan US. Using Virtual Augmented Reality to Remotely Proctor Overseas Surgical Outreach: Building Long-Term International Capacity and Sustainability. *Plastic and Reconstructive Surgery*. 2020;146(5):622e-629e.
4. Hu J, Guan A, Zhangli Q, Sayadi L, Hamdan U, **Vyas RM**. Harnessing Machine-learning to Personalize Cleft Lip Markings. *Plastic and Reconstructive Surgery - Global Open* 2020; 8(95): 150-1.
5. Sayadi LR, Hamdan US, Zhangli Q, Vyas RM. Harnessing the Power of Artificial Intelligence to Teach Cleft Lip Surgery. *Plastic and Reconstructive Surgery - Global Open* 2022 July; 10(7): e4451.
6. **Vyas RM**, Sayadi LR, inventors. UC Irvine, assignee. Using Machine Learning and 3D Projection to Guide Medical Procedures. Technical Field. USA UOCR0142PRV - 2021-961. 2021
7. Sayadi LR, Chopan M, Sayadi JJ, Samai A, Arora JS, Anand S, Evans G, Widgerow AD, **Vyas RM**. Operating Room Stencil: A Novel Mobile Application for Surgical Planning. *Plastic Reconstr Surg - Global Open*. 2021;9(9): e3807.

B. Positions, Scientific Appointments, and Honors

Academic and Administrative Appointments and Positions:

03/2023 – Present	Professor of Neurosurgery, UC Irvine School of Medicine
01/2023 – Present	Director, Craniofacial Surgery Fellowship, UC Irvine/CHOC Children's Hospital
07/2021 – Present	Professor of Plastic Surgery, UC Irvine School of Medicine
06/2021 – Present	Co-Director, International Research Fellowship, UCI/Global Smile Foundation
08/2019 – Present	Chief of Pediatric Plastic Surgery, CHOC Children's Hospital
11/2017 – Present	Vice-Chairman, UC Irvine Department of Plastic Surgery
11/2017 – 04/2022	Director of Clinical Research, UC Irvine Department of Plastic Surgery
01/2017 – 6/2021	Associate Professor of Plastic Surgery, UC Irvine School of Medicine
07/2016 – 11/2017	Associate Professor of Plastic Surgery, UC Riverside School of Medicine
09/2014 – 11/2017	Chief, Division of Plastic Surgery, UC Riverside School of Medicine
09/2014 – 06/2016	Assistant Professor of Plastic Surgery, UC Riverside School of Medicine
07/2013 – 06/2014	Clinical Instructor, New York University School of Medicine

Editorial Positions:

03/2022 – Present	Section Editor, Plastic Surgery, <i>Cleft Palate Craniofacial Journal</i>
09/2020 – Present	Editorial Board, Head & Neck Surgery, <i>Annals of Plastic Surgery</i>
11/2018 – 3/2022	Reviewer, <i>Cleft Palate Craniofacial Journal</i>

05/2013 – 11/2018 Reviewer, *Journal of Reconstructive Microsurgery*
10/2012 – 11/2018 Reviewer (Craniofacial), *Plastic and Reconstructive Surgery*

Honors:

08/2022 2023 Physician of Excellence, Orange County Medical Association (OCMA)
07/2022 Arnold Huddart Medal for "Research describing a previously undiscovered finding in human anatomy and its relevance for cleft repair," Craniofacial Society of Great Britain & Ireland. Awarded July 15, 2022 at 14th International Cleft Congress, Edinburgh, Scotland.
04/2022 Fellowship, American Association of Plastic Surgeons (AAPS)
01/2022 Graduate, Leadership Success Program for Senior Leaders, UC Irvine School of Medicine
08/2021 2022 Physician of Excellence, Orange County Medical Association (OCMA)
12/2020 Faculty Innovation Fellow, UC Irvine Beall Applied Innovations Institute (\$5,000)
08/2020 2021 Physician of Excellence, Orange County Medical Association (OCMA)
06/2020 Teaching Award for Outstanding Surgery Instructor, UC Riverside School of Medicine
10/2019 Fellowship, American College of Surgeons
10/2017 CRANIO Scholarship, American Society of Maxillofacial Surgeons (\$5,000)
09/2016 Graduate, Physician Leader Program, CHOC Children's Hospital/UC Irvine School of Business
10/2012 Best Abstract, 33rd Annual Meeting of the Indian Medical Association of Southern California
10/2007 Merck Research Scholarship Award, American Society of Maxillofacial Surgeons (\$2,500)
06/2007 UCLA School of Medicine Research Scholarship (\$10,000, 2 students)
06/2007 Stafford L. Warren Medal: Most Outstanding Medical Student, UCLA class of 2007
06/2007 Longmire Medal: Most Outstanding Medical Student in Surgery, UCLA class of 2007
06/2007 Louis Jolyon Medal: Most Outstanding Medical Student in Psychiatry, UCLA Class of 2007
06/2006 Alpha Omega Alpha (AOA) Medical Honor Society; Co-President, Class of 2007
06/2006 *Letter of Distinction* in 6 of 8 Clinical Clerkships (top 5%): Surgery, OB-GYN, Pediatrics, Psychiatry, and Neurology, UCLA School of Medicine
06/2005 *Letter of Distinction* in 6 of 8 Pre-Clinical Curriculum Blocks (top 5%), UCLA School of Medicine
11/2004 Community Leadership Award, American Association of Physicians of Indian Descent (AAPI)
06/2003 Distinction (top 5%) and Honors (thesis) with B.S. in Biology, Stanford University
03/2003 Keynote Presentation & Outstanding Young Investigator Award, 2003 Meeting of the International Union Against Tuberculosis and Lung Disease Conference (IUATLD)
09/2000 Stanford President's Award for Academic Excellence in Freshman Year (60 students)

C. Contributions to Science

C.1 Quality, Safety, and Efficiency Protocols for Surgical Outreach in Low-Resource Settings:

I participate regularly in overseas surgical outreach as a clinician, researcher, and educator studying and implementing strategies to develop sustainable cleft care. For seven years, I served as Director of Research for Global Smile Foundation (GSF), a 501c(3) dedicated to building capacity for comprehensive cleft care. I currently am Co-Director of GSF's International Research Fellowship and a member of the organization's medical advisory board. As a member of the American Society of Plastic Surgeons (ASPS), I serve on the Technology, Innovation and Disruption Committee, the Volunteers in Plastic Surgery Committee (ASPS), the Legislative Advocacy Committee (ASPS), and the International Scholar Subcommittee (ASPS). I also serve on the Global Health Committee for the American Council of Academic Plastic Surgeons (ACAPS) and on the Committee on Global Engagement through Operation Giving Back through the American College of Surgeons (ACS). I am Co-Director of Research for the Plastic Surgery Foundation's SHARE initiative (Surgeon in Humanitarian Alliance for Reconstruction, Research and Education), which forms clinical and research partnerships with African plastic surgeons to facilitate knowledge and skill transfer.

I have served in over two dozen global outreach initiatives and have leveraged these experiences and my global health leadership roles to author quality, safety, and emergency-preparedness standards for resource-poor settings.¹⁻³ Furthermore, I have authored protocols and innovations to optimize resources.⁴ In addition to publishing these resources in peer-reviewed articles and book chapters, a primary focus has been disseminating this information to in-country patients, providers, and leaders. Most recently, I co-edited *Interdisciplinary Cleft Care: Global Perspectives*, a text authored by global cleft leaders that illustrates state-of-the-art cleft care and how this care can be adapted in low-resource settings.⁵

Research Products Cited

8. **Vyas RM**, Eberlin KR, Hamdan US. Implementation of an Emergency Response Protocol for Overseas Surgical Outreach Initiatives. *Plast Reconstr Surg*. 2013;131(4). 631-6e.
9. Patel KG, Eberlin KR, **Vyas RM**, Hamdan US. Use of Safety Measures, Including the Modified World Health Organization Surgical Safety Checklist, During International Outreach Cleft Missions. *Cleft Palate-Craniofacial J*. 2014; 51(5): 597-604.
10. Kanack M, Vijaykumar C, Hamdan US, **Vyas RM**. "Chapter 40: Local Cleft Care Partnerships." *Global Cleft Care in Low-Resource Settings*, Eds: Swanson JW, Low DW. Springer, 2021. Print.
11. **Vyas RM***, Eberlin KR*, Abi-Haidar Y, Sethna N, Hamdan UH. Adult Cleft Lip Repair Under Local Anesthesia: An Effective Technique in Resource-Poor Settings. *Cleft Palate-Craniofac J*. 2013; 50(1): 59-63. *co-first authors

C.2. Clinical Outcomes in Cleft Lip and Palate Surgery

Cleft lip/palate affects 1 in 700 children globally and disturbs speech, feeding, breathing, and facial appearance. I have evaluated surgical outcomes after complex procedures to treat some of the most challenging subsets of patients. For example, for those children with bilateral cleft lip and palate who cannot access or fail standard infant presurgical orthodontics (often in low-resource settings), a premaxillary setback is a controversial solution that requires detailed analysis of surgical outcomes.¹ Additionally, I have evaluated the incidence and range of developmental delays in children with orofacial clefting, discovering higher than previously reported rates of ADD/ADHD and autism in non-syndromic children and adolescents born with isolated cleft lip and/or palate.² Using new normative sleep data for infants published by our team (C.3 below), I am currently investigating if these developmental delays are associated with cleft-related nasal airway obstructing during early infancy (so far it appears so). I recently surveyed all craniofacial fellowship-trained cleft providers in the US to understand competencies and attitudes towards ERAS (Enhanced Recovery after Surgery) protocols for cleft palate repair. This helped inform our own protocol and suggest national standards.³ Most recently, during the global pandemic, I studied our cleft team's interdisciplinary approach to triaging and optimizing care, putting forth standards to guide surgical approaches and team dynamics for similar future challenges.⁴

Research Products Cited

1. **Vyas RM**, Kim DP, Padwa BL, Mulliken JB. Primary Premaxillary Setback and Repair of Bilateral Complete Cleft Lip: Indications, Technique, and Outcomes. *Cleft Palate-Craniofacial J* 2016; 53(3): 302-8.
2. Khoshab N, Kanack M, Kadakia N, Tiourin E, Vargas S, Zadeh T, **Vyas RM**. Newly Identified Developmental Delays in a Large Population of Children with Non-Syndromic Cleft Lip and/or Palate (Oral). 90th Annual Meeting of the American Society of Plastic Surgeons (ASPS). Atlanta, GA. Oct 2021. "Top 200 Abstract" Published in *PRS Global Open*.
3. Grabar C, Fligor J, Kanack M, **Vyas RM**. A Survey of Enhanced Recovery after Surgery (ERAS) Elements in Cleft Palate Repair (Oral). 90th Annual Meeting of the American Society of Plastic Surgeons (ASPS). Atlanta, GA. Oct 2021.
4. Santos P, Omotayo A, **Vyas RM**. Interdisciplinary Considerations for Nasolabial Repair During a Global Pandemic. *Cleft Palate Craniofacial Journal* 2021 Nov 58(11): 1341-7.

C.3. Neonatal Airway Obstruction and Mandibular Distraction Osteogenesis

Neonates born with a small mandible can have retro-displaced tongues and compromised breathing. If untreated, this can result in the need for urgent tracheostomy. Mandibular distraction osteogenesis is a surgical procedure that lengthens the mandible, fixing the airway and preventing the morbidity and expense of a tracheostomy.¹ Proper patient selection is paramount and requires interdisciplinary team evaluation.² One of the most important evaluation tools available to guide patient selection and surgical decision-making is a polysomnogram (sleep study), but until recently there was no normative data on sleep for infants <1 month of age. Recently, our group published the first such data and this has had a profound influence in recalibrating the decision-tree model for proper patient selection by our team and others around the country.³ With the support of a completed NIDCR SBIR award (Co-I) and an ongoing NIDCR R03 grant (Co-PI), I am investigating the *in vivo* use of novel magnesium-based resorbable metallic alloys in rats and mini-swine to test the hypothesis that such materials can replace current mandibular distraction devices.⁴ If so, this would avoid secondary surgery that is currently required for device removal. Furthermore, magnesium-based alloys are naturally antimicrobial

as they degrade, promoting a sterile environment ideal for bone generation during mandibular distraction. This innovation has the potential to minimize operative risks and improve patient outcomes.

Research Products Cited

1. Kohan E, Hazany S, Roostaeian J, Allam K, Head C, Wald S, **Vyas R**, Bradley JP. Economic advantages to a distraction decision tree model for management of neonatal upper airway obstruction. *Plast Reconstr Surg*. 2010;126(5):1652-64.
2. **Vyas RM**, Dipple KM, Head C, Wald SH, Wasson KL, Gabbay JS, Tahernia A, Bradley JP. Management of neonatal upper airway obstruction: Decreased morbidity by utilizing a decision tree model with mandibular distraction osteogenesis. *J Neonatal Perinatal Med*. 2008(1); 1:21-29.
3. Kanack M, Nakra N, Ahmad I, **Vyas RM**. Normal Neonatal Sleep Defined: Refining Patient Selection and Interpreting Sleep Outcomes for Mandibular Distraction. *Plastic & Reconstructive Surgery Global Open*. 2022 Jan 10(1):4031
4. Winicki N, Lin J, Holt-Torres P, **Vyas RM**, Aslani A, Tobin E, Liu H. Magnesium-Based Bioresorbable Implants for Craniomaxillofacial Surgery – *In Vivo* Studies in Rats. 2021 Clinical Congress of the American College of Surgeons (ACS). Oct 2021.

C.4 Pediatric Facial Trauma

Compared to adult trauma, regional and national trends for pediatric facial trauma are less well-understood. I accessed national databases to elucidate regional and national trends in facial fracture incidence, distribution, and health care utilization.¹ More recently, I have studied the rising incidence of pediatric facial dog bites,² finding that younger children are more vulnerable to severe attacks and that larger dog breeds (especially the Pitbull) are the most common culprit. Resource utilization and specialist involvement were also reported. We also compared pediatric trends to those observed in adults in our same county.³

Research Products Cited

1. **Vyas RM**, Dickinson BP, Wasson KL, Roostaeian J, Bradley JP. Pediatric facial fractures: current national incidence, distribution, and health care resource use. *J Craniofac Surg*. 2008;19(2):339-49.
2. Lee CJ, Tiourin E, Schuljak S, Phan J, Heyming TW, Schomberg J, Wallace E, Guner YS, **Vyas RM**. Epidemiology, socioeconomic analysis, and specialist involvement in pediatric dog bite wounds: A 5 year retrospective review. *West J Emerg Med* 2021 Oct 22(6):1301-10.
3. Lee CJ, Santos PJF, **Vyas RM**. Epidemiology, Socioeconomic Analysis, and Specialist Involvement in Dog Bite Wounds in Adults: A Retrospective Analysis at a Level 1 Trauma Center. *J Craniofacial Surg* 2019 May/June; 30(3): 753-7.

C.5 Teaching Clinical Applications of Human Anatomy to Medical Students

In 2014, I started the course “Clinically Applied Anatomy” (CAA) at UC Riverside School of Medicine. This course runs in parallel with first year medical students’ “Human Gross Anatomy.” The purpose of CAA is to complement each gross anatomy dissection with a clinically-oriented didactic that uses photos, video, and clinical vignettes to illustrate how gross anatomy is clinically relevant. This course has become ingrained in the medical school and participants have reported better anatomic understanding, improved test scores, and enhanced appreciation of how understanding anatomy can improve clinical decision-making.¹⁻³ In 2018, I brought this course to UC Irvine School of Medicine, where it continues to thrive. Last year, 18 surgeons from 11 different departments participated in all 29 human gross anatomy laboratories. This summer, each surgeon is producing a video on fresh cadavers for compilation in a “Clinical Applications of Surgical Anatomy” atlas.

Research Products Cited.

1. Sinha S, Entezampour M, Davis KA, **Vyas RM**. Clinically Applied Anatomy: An Impactful Initiative in the Evolution of Medical Education.” *Annals of Plastic Surgery* 2020 May 84(5): 476-80.
2. **Vyas, RM**, Sinha S, Davis K, Entezampour M. Why academic plastic surgery should lead Applied Anatomy for first year medical students. (Oral). 88th Annual Meeting of the American Society of Plastic Surgeons (ASPS), San Diego, CA, Sept 2019.
3. Brito E, Gutierrez V, Oberoi MK, ... **Vyas RM**, Javidi D, Iraniha A. A Hands-on Surgical Anatomy Course Positively Effects Medical Students’ Decision to Pursue Surgery (Oral). 18th Annual Academic Surgical Congress (ACS). Houston, TX. Feb 2023.

Complete List of Published Work in MyBibliography:

<https://www.ncbi.nlm.nih.gov/sites/myncbi/1fs2mv7DPsjk9j/bibliography/55042161/public/?sort=date&direction=ascending> D.

Completed Research Support:

- 1/2023 – 12/2023 **Principal Investigator**
Co-PI, Dr. Lohrasb Sayadi, PGY-4, UCI Dept of Plastic Surgery
Maxillofacial Surgeons Foundation (MSF) & American Society of Maxillofacial Surgeons (ASMS) 2022-2023 Research Grant
Awarded Amount: \$4750
“Harnessing Artificial Intelligence for Autonomously Placing Cleft Repair Markings”
- 1/2020 – 6/2023
NCE x 2 (COVID) **Principal Investigator**, UCI Sub-award
Co-PI: Huinan Liu, PhD, Professor of Bioengineering, UC Riverside
National Institute of Health (NIH) R03 Small Grant
National Institute of Dental & Craniofacial Research
Awarded Amount: \$200,000
“Nutrient Derived Alloys with Nanostructured Surfaces for Distraction Osteogenesis of the Craniofacial Skeleton”
- 6/2020 – 6/2021 **Faculty PI** for James Hu, MS2
2020 AOA Carolyn L. Kuckein Student Research Fellowship
Amount Awarded: \$5,000
“Harnessing Machine Learning to Personalize Cleft Lip Markings.”
- 6/2020 – 9/2020 **Faculty PI** for SURP Fellow Qilong Zhangli
UCI Summer Undergraduate Research Program (SURP) Grant
Amount Awarded: \$1500
“Harnessing Machine Learning to Personalize Cleft Lip Markings.”
- 6/2020 – 9/2020 **Faculty PI** for Christine Grabar, MS2
UCI School of Medicine Dean’s Summer Research Fellowship Grant
Amount Awarded: \$4000
“Implementation of an ERAS Protocol in Cleft Palate Surgery”
- 7/2019 - 7/2020 **Principal Investigator**
Plastic Surgery Foundation (PSF)/American Society of Plastic Surgeons (ASPS) Breast Reconstruction Awareness Fund Public Awareness Award
Awarded Amount: \$5,765
“Use of iBook with Clinical Consultation to Educate Patients about Options for Breast Cancer Reconstruction”
- 10/2016 – 8/2018 **Co-Investigator**, UCR Sub-award
PI, UCR Sub-award: Huinan Liu, PhD, Professor of Bioengineering, UC Riverside
National Institute of Health (NIH) SBIR Phase II with N2 Biomedical (SBO)
National Institute of Dental & Craniofacial Research (NIDCR 2R44DE023287)
Awarded Amount: \$200,000
“Antimicrobial Biodegradable Bone Implant for Craniofacial/Maxillofacial Application”
- 7/2015 – 6/2017 **Principal Investigator**
Plastic Surgery Foundation (PSF) Pilot Research Grant
Awarded Amount: \$10,000
“Augmented Reality to Remotely Teach International Cleft Surgery”

- 7/2015 – 6/2017 **Principal Investigator**
Cleft Palate Foundation (CPF) Clinical Research Grant
Awarded Amount: \$5,000
“Using Augmented Reality to Remotely Build Overseas Cleft Capacity and Sustainability”
- 9/2012 – 5/2013 **Principal Investigator**
International Health Studies Grant, Massachusetts Medical Society & Alliance Charitable Foundation (\$2,000)
“Emergency Responsiveness During Overseas Outreach”
- 9/2009 – 9/2010 **Principal Investigator**
Global and Humanitarian Health Travel Scholarship, Partners in Health Center of Expertise (\$2,000)
“Optimizing Resource Utilization During Overseas Outreach”
- 8/2006 – 6/2007 UCLA School of Medicine Research Scholarship (\$10,000; 4 per class)
- 6/2004 – 9/2004 UCLA Short-Term Training Project Summer Research Grant (\$4,500)
- 6/2002 – 6/2003 Howard Hughes Medical Institute Research Grant (\$5,000)
- 9/2001 – 3/2002 Stanford Undergraduate Research Opportunities Grant (\$3,500)