

# Edward C. Ray, MD, FACS

## CURRICULUM VITAE

### PROFESSIONAL CONTACT INFORMATION

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### EDUCATION

- 1994            Cornell University (Ithaca, NY)  
Bachelor of Arts (Chemistry and Biochemistry)  
Cum laude, with distinction  
*Cayuga Society and 1865 Society Member*  
*Cornell Alumni Admissions Ambassador Network Member*
- 1998            Mayo Medical School (Rochester, MN)  
Doctor of Medicine
- 2005            University of Rochester Medical Center (Rochester, NY)  
General Surgery Residency
- 2008            University of Southern California (Los Angeles, CA)  
Plastic & Reconstructive Surgery Residency
- 2016            Memorial Sloan-Kettering Cancer Center (New York, NY)  
Microsurgery Fellowship

### LICENSURE

California # A91870  
North Carolina # 2008-01037 (inactive)  
New York # 215294 (inactive)

### BOARD CERTIFICATIONS

2007 & 2014    American Board of Surgery (current)  
2009 & 2017    American Board of Plastic Surgery (current)

### PROFESSIONAL EXPERIENCE

#### Present Position and Academic Titles:

2/2022 -            Associate Professor of Surgery, Division of Plastic Surgery, Cedars-Sinai Medical Center  
4/2020 – 7/2023    Program Director, Cedars-Sinai Microsurgery and Complex Reconstruction Fellowship  
5/2017 -            Course Chair, UCLA-GSOM Cedars-Sinai Plastic Surgery Elective (SU-SU391.06)  
5/2017 -            Associate Member, Samuel Oschin Comprehensive Cancer Institute at Cedars-Sinai

- 2017 - Assistant Clinical Professor of Surgery, University of California Los Angeles
- 2017 - Assistant Clinical Professor of Surgery, University of Southern California

**Previously Held Positions:**

- 2000 - 2002 Post-Doctoral Research Fellow, University of Rochester, Department of Surgery
- 2007 - 2008 Administrative Chief Resident, University of Southern California Plastic Surgery
- 2008 - 2015 Owner and President, Southpoint Plastic Surgery & Aesthetics, PC
- 2008 - 2015 Medical Staff, Plastic Surgery, North Carolina Specialty Hospital
- 2008 - 2015 Medical Staff, Division of Plastic Surgery, Duke Regional Hospital
- 2012 - 2013 Vice-Chairman, Department of Surgery, Duke Regional Hospital
- 2013 - 2015 Chairman, Department of Surgery, Duke Regional Hospital
- 2015 - 2016 Instructor, Plastic & Reconstructive Surgery Service, Memorial Sloan-Kettering
- 2016 - 2021 Assistant Professor of Surgery, Division of Plastic Surgery, Cedars-Sinai Medical Center

**PROFESSIONAL ACTIVITIES**

**Committee Services (CSMC):**

- 2017 - 2018 Chairman, Microsurgery Advisory Committee, Cedars-Sinai Medical Center
- 2018 - 2020 Continuing Medical Education (CME) Committee, Cedars-Sinai Medical Center
- 2019 - SOCCI LGBTQ Center of Excellence Working Group
- 2020 - Graduate Medical Education Committee, Plastic Surgery Fellowship Director
- 2020 - Program Evaluation Committee, Cedars-Sinai General Surgery Residency
- 2022 - Joint Practice Committee, Cedars-Sinai Medical Center
- 2023 - Department of Surgery Performance Improvement Committee

**Other Committee Services:**

- 2003 - 2005 Surgery Resident Representative, University of Rochester Graduate Medical Education Committee
- 2009 - 2015 Plastic Surgery Representative, North Carolina Specialty Hospital Medical Executive Committee
- 2013 - 2015 Peer Review Board Member, Duke Regional Hospital Peer Review Committee
- 2013 - 2015 Department of Surgery Delegate, Duke Regional Hospital OR Governance Committee
- 2015 - 2016 Bylaws Committee Member, American Society of Plastic Surgeons (ASPS/PSEF)
- 2018 - 2023 Program Evaluation Committee (Plastic Surgery Residency Program, USC)
- 2018 - Clinical Competency Committee (Plastic Surgery Residency Program, USC)
- 2020 - 2022 Technology Committee, Plastic Surgery Research Council (PSRC)
- 2021 - Physician Member, Nurse Practitioner Advisory Committee, California Board of Registered Nursing
- 2021 - 2023 Clinical Registries Committee, American Society of Plastic Surgeons (ASPS/PSEF)
- 2021 - Legislative Advocacy Committee (ASPS/PSEF)
- 2021 - Technology, Innovation & Disruption Committee, American Society of Plastic Surgeons (ASPS/PSEF)

**Professional Association/Society Memberships:**

- 2010 - Member, American Society of Plastic Surgeons (ASPS)
- 2010 - Fellow of the American College of Surgeons (FACS)
- 2016 - Member, USC Plastic Surgery Society
- 2017 - Member, American Society for Reconstructive Microsurgery (ASRM)
- 2017 - Member, World Professional Association for Transgender Health (WPATH)
- 2018 - Member, Los Angeles Society of Plastic Surgeons (LASPS)
- 2020 - Member, Plastic Surgery Research Council (PSRC)
- 2021 - Member, California Society of Plastic Surgeons (CSPS)

2022 - Member, Mountain-West Society of Plastic Surgeons (MWSPS)

### Editorial Services

2018 - Reviewer, Annals of Plastic Surgery  
2020 - Reviewer, Insider Health  
2022 - Reviewer, Archives of Plastic Surgery

### Consulting Activities:

2013 - 2014 Consultant, Musculoskeletal Tissue Foundation  
2013 - 2015 Consultant, NC Specialty Hospital Hyperbaric Medicine and Wound Center  
2012 - 2015 Professional Reviewer, North Carolina Medical Board  
2018 – 2019 Research consultant, Olympus USA, Digital Microscopy  
2020 - Owner and proprietor of *Code Surgeon, LLC* Digital Platform Development  
2023 - Board member, Remote Surgery Network, LLC (surgical teaching NGO)

### Community Service and Volunteer Work:

2007 Regan Fellow and Surgeon Volunteer, Operation Smile  
2009 - 2011 Board of Governors, Operation Smile Carolinas Chapter  
2010 & 2011 Delegate, ASPS Legislative Advocacy Program  
2010 - 2015 Physician Volunteer, North Carolina Emergency Response Team  
2010 - 2015 Physician Volunteer, Project C.A.R.E. (ASPS)  
2020 - California Health Corps, Disaster Healthcare Volunteers of California

### HONORS AND SPECIAL AWARDS

1990 - 1994 Dean's Scholars Program and Biochemistry Research Honors Program, Cornell University  
1994 - Phi Beta Kappa Honor Society  
1997 - 1998 Harry N. Hoffman II Humanitarian Scholarship, Mayo Medical School  
2004 Paper selected for inclusion in the Yearbook of Surgery  
2008 Winner, Best Paper, Hand Section, ASPS/PSEF Senior Residents Conference  
2017 - 2022 Circle of Friends Honoree (12 times), Cedars-Sinai Medical Center  
2021 Cedars-Sinai: National Top 10% in Patient Experience Award (Plastic Surgery)  
2021 Winner, Best Presentation, ASPS (Plastic Surgery the Meeting) Breast Session  
2023 Research highlighted in "Hot Off the Press" video (*Archives of Plastic Surgery*)

### RESEARCH GRANTS

**Active/Ongoing:** None

**Inactive/Completed:** None

#### **Pending Grant Applications:**

Co-Investigator on application for R-01 "**The role of GATA3 in cardiometabolic syndrome,**"  
PI: PK Shah MD, Department of Clinical Cardiology

Co-PI on application for NIH GRANT13795919 "**Novel deep learning methods for assisting gender-affirming surgery,**" in cooperation with Jason Moore PhD and Xiuzhen Huang PhD in the Department of Computational Biomedicine.

Co-Investigator on application for DOD grant (DOD BCRP BTA4 BC220787) "**Androgen receptor activation for breast cancer prevention and transformation of disease outcomes,**"  
PIs: Wayne D. Tilley PhD, Director of Dame Roma Mitchell Cancer Research Laboratories,

Adelaide Medical School, University of Adelaide, Australia  
Simon R. Knott PhD, The Center for Bioinformatics and Functional Genomics, Biomedical Sciences, Cedars-Sinai Medical Center

## RESEARCH FOCUS AND INTERESTS

Current research interests include (1) developing and adapting medical technology (both mobile application design as well as utilizing imaging technology for flap planning, including modalities such as thermal, photoacoustic, and 3-D tomographic reconstruction) (2) studying outcomes in gender-affirming and breast reconstruction surgery, building clinical registries and studying the effects of hormone therapy on hormone-responsive tissues such as breast ductal epithelium and adipose (3) application of artificial intelligence and deep learning to clinical problem solving and research (presently focusing on breast reconstruction, facial feminization and lymphedema).

## INVITED LECTURES, PANELS AND PRESENTATIONS

**Ray, E.** “Tech Innovations in Plastic Surgery: Artificial Intelligence / Machine Learning” Panelist at 101<sup>st</sup> Annual Meeting of the American Association of Plastic Surgeons, (Chicago, IL May 1, 2023).

**Ray E., Samaha Y.** “Archives of Plastic Surgery: Hot Off the Press” Live panel discussion of publication, “Three-dimension video microscopy: potential for improved ergonomics without increased operative time?” (recorded March 18, 2023).

**Ray E, Patel H, Kulber D.** “Toward Drainless Two-Stage Breast Reconstruction” Presented at Sientra Breast Reconstruction Summit (Chicago, IL, July 16, 2022).

**Ray E.** “Breast Cancer in the LGBTQ+ Population” Presented at Cedars-Sinai Cancer LGBTQ+ Cancer Symposium (Los Angeles, CA. June 2, 2022).

**Ray E, Samaha Y, Chen J.** “Reoperation and Failure Rates in Prepectoral and Subpectoral Implant-Based Breast Reconstruction” Presented at Cedars-Sinai Plastic Surgery Division Quarterly Meeting (December 9, 2021).

**Ray E,** “Gender-Affirming Breast and Chest Surgery.” Presented at Cedars-Sinai Transgender Chest/Breast Cancer Webinar (November 12, 2020).

Yuan N, **Ray E,** Garcia M. “Use of the Deep Inferior Epigastric Vessels for Arterial-venous Anastomosis with Free-flap Phallo-urethroplasty: Technique, Key points, and Lessons Learned” presented at the 21<sup>st</sup> Annual Fall Scientific Meeting, Sexual Medicine Society of North America (November 12, 2020).

Yuan N, **Ray E,** Garcia M. “Use of the Deep Inferior Epigastric Vessels (DIEV) for Arterial-Venous Anastomosis with Free-Flap Phallo-urethroplasty: Technique, Key Points, and Lessons Learned.” presented at the WPATH 26<sup>th</sup> Scientific Symposium (November 7, 2020).

Chen J, Patel H, **Ray E.** “3D Imaging: A Powerful Tool for Defining Sexual Dimorphism in Masculinizing Chest Surgery.” presented at the WPATH 26<sup>th</sup> Scientific Symposium (November 8, 2020).

Yuan N, **Ray E,** Garcia M. “Use of the Deep Inferior Epigastric Vessels for Arteriovenous Anastomosis in Free-Flap Phallo-urethroplasty: Technique, Key Points, and Lessons Learned.” Presented at the Annual Meeting of the American Society of Plastic Surgeons (October 2020).

**Ray E** and Patel H. “Primary Autologous Breast Reconstruction in Transgender Women.” Presented at the Annual Meeting of the American Society of Plastic Surgeons (October 2020).

Patel H, Kulber D, **Ray E**. “Drainless Breast Reconstruction.” Presented at the Annual Meeting of the American Society of Plastic Surgeons (October 2020).

**Ray E**, Patel H, Brazio P, Garcia M. “Free Flap Phalloplasty Using an Anatomically Ideal Pedicle: A Single Center Experience with 20 Patients” presented at the American Society of Reconstructive Microsurgery in Ft. Lauderdale, Florida (January 12, 2020).

Niknam-Bienia S, Wolfswinkel EM, **Ray EC**. “Gender-Affirming Free Flap Breast Reconstruction,” presented at the American Society of Reconstructive Microsurgery in Ft. Lauderdale, Florida (January 12, 2020).

Siegel E, Tran H, Mirocha J, Anand K, Chung A, Kim E, **Ray E**, Slate K, Giuliano A, Amersi F. “Intraoperative liposomal bupivacaine intercostal blocks vs paravertebral blocks for pain control in patients undergoing mastectomy with implant-based reconstruction,” presented at 20<sup>th</sup> Annual American Society of Breast Surgeons in Dallas, Texas (April 30, 2019).

Brazio P, **Ray EC**. “Improving Success of Free Flap Phalloplasty Using an Anatomically Ideal Pedicle,” presented at 98th AAPS Annual Meeting in Baltimore, Maryland (April 8, 2019).

Maas M, Howell AC, Gould DJ, **Ray EC**. “The Ideal Male Nipple-Areola Complex: A Critical Review of the Literature and Discussion of Surgical Techniques for Female to Male Gender-Confirming Surgery,” presented at California Society of Plastic Surgeons in Sacramento, California (May 30-June 2, 2019). [published in Annals of Plastic Surgery]

**Ray, EC**. “Transitioning to an Academic Career, Lessons Learned from a Convert,” presented at the American Society of Reconstructive Microsurgeons in Palm Desert, California (February 4, 2019).

**Ray, EC**. “Phalloplasty at Cedars-Sinai – lessons learned from the first 10 cases” Bernard Sarnat Plastic Surgery Symposium at Cedars-Sinai Medical Center in Los Angeles, California (November 5, 2018).

**Ray, EC**. “Acute Thumb Reconstruction With Great Toe Transfer,” presented at the North Carolina Society of Plastic Surgeons Annual Meeting in Chapel Hill, NC (September, 2008).

**Ray, EC**. “Immediate Thumb Reconstruction With Great Toe Transfer After Acute Injury,” presented at the 25<sup>th</sup> Annual Bernard G. Sarnat Plastic Surgery Conference in Los Angeles, CA (June 28, 2008).

**Ray, EC**. “Immediate Thumb Reconstruction With Great Toe Transfer After Acute Injury,” presented at the ASPS Senior Resident Conference in Washinton D.C. (January 31, 2008).

**Ray, EC**. “Use of Alloderm in First Webspace Reconstruction” presented at the Southern California Chapter of the American College of Surgeons Meeting in Santa Barbara, California (January 21, 2007).

**Ray, EC**. “Predicting Success After Gastric Bypass: Role of Psychological and Behavioral Factors” presented at the 60<sup>th</sup> Annual Central Surgical Association Meeting in Toronto, Ontario (March 20, 2003).

**Ray, EC**. “Growth Hormone and Epidermal Growth Factor Together Enhance Amino Acid Transport Systems B<sup>0+</sup> and A in Remnant Small Intestine after Massive Enterectomy,” presented at the 36<sup>th</sup> Annual Association for Academic Surgery Meeting in Boston, Massachusetts (November 7, 2002).

**Ray, EC**. “Growth Hormone and Epidermal Growth Factor Alter the Relative Contribution of Intestinal Glutamine Transport Systems,” presented at the Clinical Congress of the American College of Surgeons 87<sup>th</sup> Surgical Forum in New Orleans, Louisiana (October 8, 2001).

**Ray, EC.** “Growth Hormone and Epidermal Growth Factor Upregulate Specific Sodium-Dependent Glutamine Transport Systems in C2BB<sub>e</sub>1,” presented at the Summer 2001 FASEB Meeting on Transporter Biology in Tucson, Arizona (July 23, 2001).

## TEACHING ACTIVITIES

### Clinical teaching:

- 2008 - 2015 Supervised and instructed Duke University Plastic Surgery residents, in the operating room at Duke Regional Hospital.
- 2015 - 2016 Supervised and instructed Cornell University and NYU Plastic Surgery residents as well as visiting medical students on the wards, in clinic and in the operating room at Memorial Sloan Kettering Cancer Center.
- 2016 - present Cedars-Sinai Medical Center (Los Angeles, CA) Supervised, instructed and mentored Cedars-Sinai and USC residents as well as USC and Cedars-Sinai microsurgery fellows and UCLA medical students, on the ward, in the clinic and in the operating room.
- 2017 – present Cedars-Sinai Pre-Healthcare Student Volunteer Program (Los Angeles, CA) Shadowed by UCLA undergraduate students interested in healthcare and especially surgical careers.

### Non-clinical teaching:

- 1/2009 “Breast Reconstruction: Past, Present and Future,” Duke Regional Hospital (Duke University Health System) Surgery Grand Rounds.
- 3/2009 “Pressure Ulcer Management,” Duke Regional Hospital (Duke University Health System) Surgery Grand Rounds.
- 4/2009 “Chest Wall Reconstruction,” Duke Regional Hospital (Duke University Health System) Surgery Grand Rounds.
- 6/2012 “Pressure Ulcers and How to Manage Them,” Duke Regional Hospital Medical Staff Grand Rounds.
- 2/2014 Presented multiple breast reconstruction cases at City-wide Triangle Journal Club (Raleigh, NC).
- 4/2014 “Correction of Tuberous Breast Deformity” at Aesthetic Surgery Journal Club (Raleigh, NC).
- 11/2015 “Complex Nasal Reconstruction” at Memorial Sloan-Kettering Cancer Center Plastic Surgery Visiting Professor Conference.
- 11/2015 “Mandibular Reconstruction Using Free Scapula Composite Flap” at Memorial Sloan-Kettering Cancer Center Plastic Surgery Visiting Professor Conference.
- 9/2016 - Participated as faculty discussant / presenter in USC Friday morning resident teaching conferences and journal clubs, Cedars-Sinai Department of Surgery M&M, Multidisciplinary Breast Tumor Board, Skin Tumor Board, Orthopaedic Trauma Signout Rounds and Division of Plastic Surgery Team Meetings.
- 3/2017 “Breast Reconstruction: Concepts, Caveats and Controversies,” Cedars-Sinai Breast Fellowship Didactic Conference.
- 7/2017 “Radial Forearm Free Flaps,” Cedars-Sinai Acute Therapy Team Inservice.

- 9/2017 “Reconstruction of a Complex Abdominal Wall Defect After Tumor Resection,” Samuel Oschin Comprehensive Cancer Institute Grand Rounds.
- 9/2017 “Breast Reconstruction: History and Current Concepts,” Medical Student Didactic Conference.
- 10/2017 “Current Concepts in Gender-Affirming Surgery,” University of Southern California Plastic Surgery Conference Lecture.
- 12/2017 “Better Living Through Microsurgery” Cedars-Sinai Department of Surgery Grand Rounds.
- 1/2018 “Pressure Ulcers and How to Manage Them” Surgical Intensive Care Unit Didactic Lecture.
- 3/2018 “Wound Closure and Skin Flaps” Cedars-Sinai Surgery Resident Skills Lab .
- 5/2018 “Oncoplastic Breast Reconstruction” Cedars-Sinai Breast Fellowship Didactic Conference.
- 10/2018 “Gender-Affirming Surgery” University of Southern California Plastic Surgery Residency Didactic Conference.
- 2/2019 “Gender-Affirming Surgery at Cedars-Sinai” Cedars-Sinai Division of Plastic Surgery Quarterly Meeting.
- 3/2019 “Pressure Ulcers and How to Manage Them” Surgical Intensive Care Unit Didactic Lecture.
- 5/2019 “Gender-Affirming Surgery” University of Southern California Keck School of Medicine Plastic Surgery Interest Group.
- 5/2019 “Gender-Affirming Surgery” University of Southern California Plastic Surgery Residency Didactic Conference.
- 6/2019 “Oncoplastic Breast Surgery,” Cedars-Sinai Breast Fellowship Lecture Series.
- 7/2019 “Research Involving Transgender Patients,” Cedars-Sinai IRB Grand Rounds.
- 6/2020 “Oncoplastic Breast Surgery,” Cedars-Sinai Breast Fellowship Lecture Series.
- 7/2020 “Career Paths: Lessons Learned,” University of Southern California Plastic Surgery Residency *Summer School* Didactic Conference.
- 11/2020 “Stress Ulcer Prophylaxis,” Cedars-Sinai Surgical Intensive Care Teaching Conference.
- 12/2020 “Breast Implants and Mobile Technology: A New Tool For Plastic Surgeons.” presented at the Cedars-Sinai Plastic Surgery Quarterly Staff Meeting, December 16, 2020
- 12/2020 “Oncoplastic Breast Reconstruction” Cedars-Sinai Breast Fellowship Didactic Conference, December 17, 2020
- 5/2021 “Gender affirming surgery for the FTM individual” University of Southern California Plastic Surgery Residency Didactic Conference. May 7, 2021
- 7/2021 “Ergonomics in Plastic Surgery” Plastic Surgery Grand Rounds, UCSD, San Diego. July 28, 2021

10/2022	“Flaps in Genitourinary Reconstruction” Cedars-Sinai Department of Urology Fellowship Teaching Conference, October 25, 2022
11/2022	“Breast Reduction” University of Southern California Plastic Surgery Residency Didactic Conference November 11, 2022
11/2022	“Gender-Affirming Chest Surgery” Cedars-Sinai Division of Plastic Surgery Teaching Conference Nov 23, 2022
2/2023	“Oncoplastic Surgery and Timing of Breast Reconstruction” Cedars-Sinai Oncologic Surgery Didactic Conference, February 7, 2023
5/2023	“Pressure Ulcers 101: Diagnosis Prevention and Management” Cedars-Sinai Surgical Intensive Care Teaching Conference, May 30, 2023.
6/2023	“Pressure Ulcers 101: Everything You Need to Know But Were Afraid to Ask” Cedars-Sinai Advanced Practice Provider Grand Rounds, June 8, 2023.
7/2023	“A Week in the Life of a Reconstructive Microsurgeon” Los Angeles Pediatric Society Summer Lecture Series, July 25, 2023.
9/2023	“Problem Solving with AI/ML in Plastic and Reconstructive Surgery” Cedars-Sinai Artificial Intelligence Campus Showcase [virtual] Sep 25, 2023.
11/2023	“Masculinizing Genital Gender-Affirming Surgery” Sexual Medicine Society of North America Surgical Anatomy Course for Providers, UC San Diego, CA. Nov 15, 2023.
1/2024	“How to Build a Breast” Cedars-Sinai Oncologic Surgery Didactic Conference, Jan 11, 2024.
3/2024	“Research Fellowship at Cedars-Sinai Medical Center,” Operation Diversify Plastics [virtual], Mar 29, 2024.

## BIBLIOGRAPHY / PUBLICATIONS

### A.) Research Papers – Peer Reviewed:

1. McNamee, SG, Ober, CK, Jelinski, LW, **Ray, E**, Xia, Y and Grubb, D, "Toward Single Fiber Diffraction of Spider Dragline Silk from *Nephila clavipes*," in *Silk Polymers: Materials Science and Biotechnology*, ACS Symp. Ser. 544 (Kaplan, D, Adams, WW, Farmer, B, and Viney, C, eds.) 176-184 (1994). [worked as lab assistant, maintained study animals and collected silk, helped run X-ray diffraction experiments in cyclotron]
2. Xia, Y, Farquhar, T, Burton-Wurster, N, **Ray, E** and Jelinski, LW, “Diffusion and Relaxation Mapping of Intact Cartilage and Cartilage Explants Using MR Microscopic Imaging," *Magn. Reson. Med.* 31: 273-282 (1994). [worked as lab assistant, maintained study animals and collected silk, wrote FORTRAN software for analyzing MR data]
3. Simmons, A, **Ray, E** and Jelinski, LW, "Solid State  $^{13}\text{C}$  NMR of *Nephila clavipes* Dragline Silk Establishes Structure and Identity of Crystalline Regions," *Macromolecules*, 27: 5235-5237 (1994). [worked as lab assistant, maintained study animals and collected silk, wrote FORTRAN software for analyzing MR data]

4. Simmons, A, **Ray, E** and Jelinski, LW, "NMR Studies of Spider Dragline Silk," *Polym. Prepr., Am. Chem. Soc., Div. Polym. Chem.* 35(2) 421-422 (1994). [worked as lab assistant, maintained study animals and collected silk, wrote FORTRAN software for analyzing MR data]
5. **Ray, EC**, Landis, ME and Miller, VM, "Effects of Dietary L-arginine on Reactivity of Canine Coronary Arteries," *Vasc. Med.* 4(4): 211-217 (1999).
6. Landis, ME, **Ray, EC**, Gloviczki, P and Miller, VM, "Effects of Dietary L-arginine on Structure and Function of Flow-Restricted Vein Grafts," *J. Vasc. Surg.* 33(4): 829-839 (2001). [as student, collaborated with resident in performing surgery on study animals and in writing paper]
7. **Ray, EC**, Avissar, NE, Vukcevic, D, Toia, L, Ryan, CK, Berlanga-Acosta J, and Sax, HC, "Growth Hormone and Epidermal Growth Factor Together Enhance Amino Acid Transport Systems B<sup>0,+</sup> and A in Remnant Small Intestine after Massive Enterectomy," *J. Surg. Res.* 113(2): 257-263 (2003). Selected for Year Book of Surgery; (Copeland, EM, ed.) Mosby. Manchester, U.K., September 2004.
8. **Ray, EC**, Nickels, MW, Sayeed, S and Sax, HC, "Predicting Success After Gastric Bypass: Role of Psychological and Behavioral Factors," *Surgery* 134(4): 555-563 (2003).
9. Avissar, NE, Ziegler, TR, Toia, L, Gu, LH, **Ray, EC**, Berlanga-Acosta, J and Sax, HC, "ATB<sup>0</sup>/ASCT2 Expression in Residual Rabbit Bowel Is Decreased after Massive Enterectomy and Is Restored by Growth Hormone Treatment," *J. Nutr.* 134: 2173-2177 (Sep 2004). [performed surgery on study animals and helped collect data]
10. **Ray, EC**, Avissar, NE, Salloum, R, and Sax, HC, "Growth Hormone (GH) and Epidermal Growth Factor (EGF) Upregulate Specific Sodium Dependent Glutamine (Gln) Uptake Systems in Human C2BB<sub>e</sub>1 Cells," *J. Nutr.*, 135(1): 14-18 (Jan 2005).
11. **Ray, EC**, Sherman, R, and Stevanovic, M, "Immediate Reconstruction of a Nonreplantable Thumb Amputation by Great Toe Transfer," *Plast. Recon. Surg.*, 123(1): 259-267 (Jan 2009).
12. **Ray E**, Mitchell SL, Cordeiro PG. "Miniature Negative Pressure Dressings on Forearm Donor Sites after Radial Forearm Flap Harvest," *Plast Reconstr Surg Glob Open.* 6(6):e1838. (2018). Epub 2018 Jun 15. doi:10.1097/GOX.0000000000001838. PMID: 30276061.
13. Mitchell SL, **Ray E**, Cordeiro PG. "Miniaturized Negative-Pressure Wound Therapy for Split-Thickness Skin Graft Donor Sites," *J Reconstr Microsurg Open.* 3(2):e46-e49. (2018). doi:10.1055/s-0038-1668561.
14. Maas M, Howell AC, Gould DJ, **Ray EC**, "The Ideal Male Nipple-Areola Complex," *Ann. Plast. Surg.*, 84(3):334-340. (Mar 2020). doi: 10.1097/SAP.0000000000002018. PMID: 31633544. <https://pubmed.ncbi.nlm.nih.gov/31633544/>
15. Patel, H, Arruarana, SV, Yao, L, Xiaojiang, C, **Ray, EC**, "Effects of Hormones and Hormone Therapy on Breast Tissue in Transgender Patients: A Concise Review," *Endocrine*, 68(1):6-15 (Apr 2020). doi: 10.1007/s12020-020-02197-5. Epub 2020 Feb 17. PMID: 32067157. <https://pubmed.ncbi.nlm.nih.gov/32067157/>
16. Patel H, Samaha Y, Ives G, Lee TY, Cui X, **Ray EC**. "Chest Feminization in Male-to-Female Transgender Patients: A Review of Options," *Transgender Health* Epub 2021 Jan 29. doi.org/10.1089/trgh.2020.0057. PMID: 34993297. <https://pubmed.ncbi.nlm.nih.gov/34993297/>
17. Patel, H and **Ray, E**. "Harnessing the Application Revolution in Plastic Surgery," *Plast Reconstr Surg.* (Feb 2021). 147(2):369e-370e. PMID: 33177451. <https://pubmed.ncbi.nlm.nih.gov/33177451/>

18. Chen J and **Ray E.** “The Coronavirus (COVID-19) Effect on Public Sentiments Regarding Elective Plastic Surgery in the United States, Plastic and Reconstructive Surgery” *PRS Global Open*: 9(4): p e3579 (Apr 2021) doi: 10.1097/GOX.0000000000003579. PMID: 33936920. <https://pubmed.ncbi.nlm.nih.gov/33936920/>
19. Yuan N, Chung T, **Ray E**, Sioni C, Jimenez A, Garcia M. “Requirement of Mental-Health Referral Letters for Staged and Revision Genital Gender-Affirming Surgeries: An Unsanctioned Barrier to Care” *Andrology* 9(6): p 1765-1772 (Nov 2021). doi: 10.1111/andr.13028, PMID: 33960709. <https://pubmed.ncbi.nlm.nih.gov/33960709/>
20. Cordero DM, Srinivasa D, Barnes LL, **Ray E**, Terry MJ. “Surgical Treatment of Granulomatous Breast Deformities Due to Injection of Foreign Substances in Transgender Women: a Case Series and Algorithm.” *Plast Reconstr Surg*. (Mar 2022). PMID: 35349530. <https://pubmed.ncbi.nlm.nih.gov/35349530/>
21. Smith S, Yuan N, Lee G, Stelmar J, **Ray E**, Garcia M. Modified Phallourethroplasty’ as a Surgical Alternative to Phalloplasty with Urethral Lengthening: Technique, How We Educate Patients About this Option, and Clinical Outcomes" *Sex Med*. (Apr 2022) 10(2):100495. doi: 10.1016/j.esxm.2022.100495. Epub 2022 Mar 4. PMID: 35255460. <https://pubmed.ncbi.nlm.nih.gov/35255460/>
22. Patel, Harsh; Kulber, David; **Ray, Edward**. Toward Drainless Breast Reconstruction: A Pilot Study. *Plastic and Reconstructive Surgery - Global Open*: October 2022 - Volume 10 - Issue 10 - p e4560. doi: 10.1097/GOX.0000000000004560. PMID: 36262684. <https://pubmed.ncbi.nlm.nih.gov/36262684/>
23. Samaha Y, **Ray E.** “Three-Dimensional Video Microscopy: Potential for Improved Ergonomics without Increased Operative Time?” *Arch Plast Surg*. 2023 Feb 6;50(1):125-129. doi: 10.1055/s-0042-1758768. PMID: 36755658; PMCID: PMC9902199. <https://pubmed.ncbi.nlm.nih.gov/36755658/>
24. Raths F, Karimzadeh M, Ing N, Martinez A, Yang Y, Qu Y, Lee TY, Mulligan B, Devkota S, Tilley WT, Hickey TE, Wang B, Giuliano AE, Bose S, Goodarzi H, **Ray EC**, Cui X, Knott SRV. “The molecular consequences of androgen activity in the human breast.” *Cell Genom*. 2023 Mar 8;3(3):100272. doi: 10.1016/j.xgen.2023.100272. PMID: 36950379; PMCID: PMC10025454. <https://pubmed.ncbi.nlm.nih.gov/36950379/>
25. Goli R, Lasky S, **Ray E**, Chen H. "Assessment of Cranial Sexual Dimorphism Using 3D Reconstruction: Implications for Gender-Affirmation Surgery" *J Craniofac Surg*. 2023 Jun 1;34(4):1231-1234. doi: 10.1097/SCS.0000000000009266. Epub 2023 Mar 14. PMID: 36914593. <https://pubmed.ncbi.nlm.nih.gov/36914593/>
26. Samaha Y, Chen J, **Ray E.** “ADMs and Synthetic Meshes Improve Implant-based Breast Reconstruction Aesthetics, But at What Cost?” *J Plast Reconstr Aesthet Surg*. 2023 May;80:178-181. doi: 10.1016/j.bjps.2023.03.009. Epub 2023 Mar 21. PMID: 37028245. <https://pubmed.ncbi.nlm.nih.gov/37028245/>
27. Chun Fat S, Weed C, Samaha Y, Chung A, Boyle M, Giuliano A, **Ray E**, Amersi F. “Incidence of Cancer and Role of Sentinel Lymph Node Biopsy in BRCA Mutation Carriers Undergoing Prophylactic Mastectomies.” *Am Surg*. 2023 May 15:31348231175498. doi: 10.1177/00031348231175498. Epub ahead of print. PMID: 37184070. <https://pubmed.ncbi.nlm.nih.gov/37184070/>
28. Chun Fat S, **Ray E.** “Gender-Affirming Microvascular Breast Reconstruction.” *Gland Surg special series Advances in Microsurgical Breast Reconstruction*, 2023 Jul 31: 12(7): 982-988. doi: 10.21037/gs-23-133. Epub 2023 Jun 30. PMID: 37727344. [\*] Selected for “Outstanding Author Interview.” <https://pubmed.ncbi.nlm.nih.gov/37727344/>
29. Azadgoli B, Samaha Y, Chen J, **Ray E.** Defining sexual dimorphism in masculinizing chest surgery using 3-dimensional imaging. *J Plast Reconstr Aesthet Surg*. 2023 Aug; 83:32-41. doi: 10.1016/j.bjps.2023.04.020. Epub 2023 Apr 17. PMID: 37270993. <https://pubmed.ncbi.nlm.nih.gov/37270993/>

30. Chaum M, Grossi S, Chen J, Hu V, **Ray E**, Giuliano A, Bose S. “Masculinizing Hormone Therapy Effect on Breast Tissue: Changes in Estrogen and Androgen Receptors in Transgender Female-to-Male Mastectomies.” *Breast*. 2023 Dec; 72: 103596. doi: 10.1016/j.breast.2023.103596. Epub 2023 Nov 3. PMID: 37951051. <https://pubmed.ncbi.nlm.nih.gov/37951051/>
31. Szymanski K, Munabi N, Garcia M, **Ray E**. “Delayed, Dramatic Breast Swelling in a Transgender Woman: A Case Report.” *Sex Med*. 2023 Nov 29; 11(5): qfad054. doi: 10.1093/sexmed/qfad054. PMID: 38034089. <https://pubmed.ncbi.nlm.nih.gov/38034089/>

#### **B.) Research Papers – Peer Reviewed (In Press):**

1. Shahzad F, Ray E. “Pelvic and Perineal Reconstruction.” CME Article [revised, accepted, *Plast Reconstr Surg*, Jan 2024].
2. Lee J, Liu Y, **Ray E**, Giuliano A, Cui X. “Breast Organoid Models: New Approach for Human Lactation Research.” [accepted, *Reproduction and Breeding* Nov 2023].

#### **C.) Research Papers – Peer Reviewed (Submitted):**

1. Samaha Y, Chen J, **Ray E**. "A Comparison of Reoperation Rates in Prepectoral versus Subpectoral Implant Reconstruction" [revised, resubmitted to *Archives of Plastic Surgery*, Dec 2023].
2. Noel L, Chun Fat S, Dong W, Causey JL, Stubblefield J, Szymanski K, Chang J, Wang PZ, Moore JH, **Ray E**, Huang X. “Sex Classification of 3D Skull Images Using Deep Neural Networks” [submitted revised version to *J Biomed Informatics*, Jan 2024].

#### **Chapters:**

1. **Ray, EC**, “Head and Neck Reconstructive Surgery” In: Multidisciplinary Care of the Head and Neck Cancer Patient (Ellie Maghami and Allen Ho, Eds.), Springer, 123-141, 2018.
2. Farhang, H, and **Ray EC**, Disa J “Delayed Tissue Expander Breast Reconstruction,” Chapter for Operative Techniques in Breast Surgery, Reconstruction and Body Contouring, (Joseph Disa, Kevin Chung, Eds.) [contributed video and photographs for multimedia publication], 2019.
3. **Ray, EC**, and Disa, J, “Scalp Reconstruction,” Invited Chapter revision for 2nd edition of Operative Plastic Surgery (Gregory R.D. Evans, Ed.), 2019.
4. **Ray, EC**, and Matros, E, “Head and Neck Reconstruction,” Invited Chapter revision for Jatin Shah’s 5th edition of Head and Neck Surgery and Oncology, 2019.
5. **Ray, E**, Srinivasa D, Sherman R. “Plastic and Reconstructive Surgery,” Invited Chapter in Human Factors in Surgery: Enhancing Safety and Flow in Patient Care, (Cohen T, Ley EJ and Gewertz BL, Eds), 2020.

#### **Chapters - (In Press):**

#### **Letters to the Editor:**

1. **Ray, E**, “Practice Surgery, Perform Operation” *Rochester Democrat & Chronicle* (May 1, 2004).

**Reviews:**

1. **Ray, EC**, Avissar, NE, and Sax, HC, “Growth factor regulation of enterocyte nutrient transport during intestinal adaptation,” [Review], *Am. J. Surg.* 183(2): 361-371 (2002).
2. **Ray, EC**, Avissar, N, and Sax, H, “Methods Used to Study Intestinal Nutrient Transport: Past and Present,” [Review], *J. Surg. Res.* 108:180-190 (2002).
3. Lehfelddt, M, **Ray, EC**, and Sherman, R, “MOC-PS(SM) CME Article: Treatment of Flexor Tendon Laceration.” in *Plast. Recon. Surg.*, 121(4) Supplement:1-12, (April 2008). [collaborated with senior resident on paper]
4. **Ray, EC**, Wu, T, Nazarian-Mobin, S, Reinisch, J, and Urata, M, “Review of Options for Burned Ear Reconstruction” *J. Craniofacial Surg.* 21(4): 1165-9, (2010).
5. **Ray, EC** “Head and Neck Reconstructive Surgery,” *Cancer Treat. Res.*, 174: 123-143 (2018).
6. Brazio, PS, Mascharak, S, Siref, AB, Hagopian, TM and **Ray, EC**. “Modified Charles Procedure for Tissue Destruction after Gluteal Silicone Injection in a Transgender Woman.” *Surgical Case Reports* doi: 10.31487/j.SCR.2018.03.003. 1(3): 1-4 (2018).
7. Samaha Y, Kinney B, **Ray E**. “Machine Learning and Augmentation of Physician Practice.” *PRS Technology Series* [Submitted July 2022].
8. Samaha Y, Kinney B, **Ray E**. “Cybersmearing, Crowdsourcing and Reputation Management.” *PRS Technology Series* [Submitted July 2022].
9. Aref Y, Fat SC, **Ray E**. Recent insights into the role of hormones during development and their functional regulation. *Front Endocrinol (Lausanne)*. 2024 Jan 22;15:1340432. doi: 10.3389/fendo.2024.1340432. PMID: 38318293; PMCID: PMC10841574. <https://pubmed.ncbi.nlm.nih.gov/38318293/>

**Editorials:**

1. **Ray, EC**, “Gender-Affirming Phalloplasty: A First for Cedars-Sinai” *Sutures Newsletter* (January 2018).

**Abstracts (Podium Presentations, Posters and Talks):**

1. **Ray, EC**, Landis, ME, and Miller, VM, "Effects of Dietary L-arginine on Reactivity of Canine Coronary Arteries," poster presented at the International Symposium on Mechanisms of Vasodilation in Maastricht, Netherlands (July 1997).
2. **Ray, E**, Sax, H, and Avissar, N, “Growth Hormone and Epidermal Growth Factor Upregulate Specific Sodium-Dependent Glutamine Transport Systems in C2BB<sub>e</sub>1,” poster presented at the Summer 2001 FASEB Meeting on Transporter Biology in Tucson, Arizona (July 2001).
3. Salloum, R, Avissar, NE, Patel, S, **Ray, EC**, Hamilton, DE, and Sax, HC, “Modulation of epidermal growth factor (EGF) receptor phosphorylation in hypoxic colon cancer cells *in vitro*” poster presented at the Society of Surgical Oncology 55<sup>th</sup> Annual Cancer Symposium in Denver, Colorado (March 2002). [maintained cell cultures and performed assays]

4. Brazio PS, Mascharak S, **Ray EC**, “Illicit Silicone Injections in Transgender Women: an Increasingly Visible Hazard” presented at the 68<sup>th</sup> California Society of Plastic Surgeons Annual Meeting, San Diego, CA (May 2018).
5. Maas M, Howell AC, Gould DJ, **Ray EC**, “The Ideal Male Nipple-Areola Complex: A Critical Review of the Literature and Discussion of Surgical Techniques for Female to Male Gender-Confirming Surgery,” presented at the 69<sup>th</sup> California Society of Plastic Surgeons Annual Meeting, (May 2019).
6. Srinivasa DR, Patel H, **Ray E**, “Foreign Substance Granulomas of the Breast: An Algorithm for Surgical Excision and Breast Reconstruction in Trans Women,” USPATH Meeting, Washington, DC (September 2019).
7. Patel H, Arruarana V, Heckell C, Garcia M, **Ray E**, “Gluteal Fold Full-Thickness Skin Grafts for Phalloplasty Donor Site Coverage,” presented at the American Society of Reconstructive Microsurgery Annual Meeting, (January 2020).
8. Arruarana V, Heckell C, Patel H, **Ray E**, “Perforator Flap Planning Using a Custom-Built Thermal Camera,” presented at the American Society of Reconstructive Microsurgery Annual Meeting, (January 2020).
9. Patel H, Heckell C, Arruaranna V, Sherman R, **Ray E**, Srinivasa D. “Contralateral Prophylactic Mastectomy and Breast Reconstruction Trends: A 10-Year Review at a Tertiary Care Center,” to be presented at the 70<sup>th</sup> California Society of Plastic Surgeons Annual Meeting, San Diego, CA (May 2020).
10. Patel H, Wang L, Raghuram AC, **Ray EC**. “Microsurgical Perceptions Among Medical Students: Time for Intervention?” Plastic Surgery: The Meeting, Atlanta, GA (Oct 29, 2021).
11. Chen J, Tung R, **Ray E**. “The Coronavirus Effect on US Public Sentiments Regarding Elective Plastic Surgery” to be presented at the 71<sup>st</sup> California Society of Plastic Surgeons Annual Meeting, held virtually (June 2021).
12. Chen J and **Ray E**. “Radiation Therapy and Breast Reconstruction, a Retrospective Analysis of Reoperation Rates” Plastic Surgery: The Meeting, Atlanta, GA (Oct 29, 2021). \* Winner, Best Presentation in Breast Session
13. Chen J and **Ray E**. “A Powerful Tool for Defining Sexual Dimorphism in Masculinizing Chest Surgery” Plastic Surgery: The Meeting, Atlanta, GA (Oct 29, 2021).
14. Patel H and **Ray E**. “Optimizing Anastomotic Location in Free Flap Surgery for Open Tibial Fractures” Plastic Surgery: The Meeting, Atlanta, GA (Oct 29, 2021).
15. Chen J and **Ray E**. “Effect of Androgen Therapy on Transgender Female-to-Male Mastectomies” Plastic Surgery: The Meeting, Atlanta, GA (Oct 29, 2021).
16. Mohan S, **Ray E**, Cui J, Giuliano A. “3D Organoid System for BRCA1-mutant Human Breast Tissue,” Society for Surgical Oncology 2022, Dallas, TX (Mar 9-12, 2022).
17. Ong J, Chen J, **Ray E**. “Largest Single-Institutional Study of Chemotherapy Effects on Breast Reconstruction Complications,” American Society for Reconstructive Microsurgery, Carlsbad, CA (Jan 17, 2022).
18. **Ray E**. “Implant Wizard” Presented at [Shark Tank: New Innovations in Surgery](#), American Society for Reconstructive Microsurgery Annual Meeting in Carlsbad, CA (Jan 18, 2022).
19. **Ray E**, Chen J, Samaha Y. “The Effects of BMI of Reconstructive Failure Rates in Prepectoral and Subpectoral Implant-Based Breast Reconstruction,” Mountain-West Society of Plastic Surgeons, Snowbird, UT (Feb 25, 2022).

20. Samaha Y **Ray E**, Chen J, Sherman R. “The Effects Of Radiation Status On Reconstructive Failure Rates In Prepectoral And Subpectoral Implant-based Breast Reconstruction,” American Association of Plastic Surgeons 100<sup>th</sup> Annual Meeting, San Diego, CA (Apr 9-12, 2022).
21. Samaha Y **Ray E**, Chen J, Sherman R. “The Effects of BMI on Reconstructive Failure Rates In Prepectoral And Subpectoral Implant-based Breast Reconstruction,” American Association of Plastic Surgeons 100<sup>th</sup> Annual Meeting, San Diego, CA (Apr 9-12, 2022).
22. **Ray E**. “Optimizing Breast Surgery with the Implant Wizard Mobile App” American Society of Aesthetic Plastic Surgery Annual Meeting, San Diego, CA (April 22, 2022).
23. Goli R, Chen H, **Ray E**. “Assessment of cranial sexual dimorphism using 3D reconstruction software and implications for facial gender-affirmation surgery.” California Society of Plastic Surgeons, 72<sup>nd</sup> Annual Meeting, May 21, 2022, San Diego, CA.
24. Williams E, Kulber D, **Ray E**. “Implementation of a Smart Phone Application to Provide Global Plastic Surgery Education and Mobile Electronic Medical Records.” California Society of Plastic Surgeons, 72<sup>nd</sup> Annual Meeting, May 21, 2022, San Diego, CA.
25. Samaha Y, Chen J, **Ray E**. “The Effects of BMI and Radiation Status on Reconstructive Failure Rates in Prepectoral and Subpectoral Implant-based Breast Reconstruction.” California Society of Plastic Surgeons, 72<sup>nd</sup> Annual Meeting, May 21, 2022, San Diego, CA.
26. Samaha Y, Chen J, **Ray E**. “Three-Dimensional Video Exoscope Microscopy Addresses Ergonomics of Microsurgery Without Increasing operative Times.” California Society of Plastic Surgeons, 72<sup>nd</sup> Annual Meeting, May 21, 2022, San Diego, CA.
27. Williams E, Turk M, Tanabe K, **Ray E**, Kulber D. “P8. The Development of a Smart Phone Application for Global Plastic Surgery Education and Mobile Electronic Medical Records.” ACAPS Annual Meeting, Spring 2022. Published in *Plastic and Reconstructive Surgery - Global Open: May 2022 - Volume 10 - Issue 5S - p 20-21*. doi: 10.1097/01.GOX.0000835032.76453.b
28. Turk M, Williams E, Tanabe K, **Ray E**, Kulber D. “15. Utilization of Augmented Reality Smart Glasses for the Provision of Remote Surgical Training in the Resource-Constrained Setting.” ACAPS Annual Meeting, Spring 2022. Published in *Plastic and Reconstructive Surgery - Global Open: May 2022 - Volume 10 - Issue 5S - p 7-8*. doi: 10.1097/01.GOX.0000834948.40941.ad
29. **Ray E**, Yuan N, Garcia M. “*Modified Phallourethroplasty* as a Surgical Alternative to Phalloplasty with Urethral Lengthening: Technique, How We Present this Option to Patients, and Clinical Outcomes.” Plastic Surgery: The Meeting, Boston, MA (Oct 27, 2022).
30. Samaha, Y. and **Ray E**. “Do ADMs Improve Aesthetics in Implant-based Breast Reconstruction.” Plastic Surgery: The Meeting, Boston, MA (Oct 28, 2022).
31. Samaha, Y. and **Ray E**. “Three-Dimensional Video Microscopy in Microsurgery: Improving Ergonomics and Efficiency.” Plastic Surgery: The Meeting, Boston, MA (Oct 29, 2022).
32. **Ray E**, Samaha Y, Yuan N, Garcia M. “Technique and Outcomes in First-Stage Gender-Affirming Free-Flap Phalloplasty.” Plastic Surgery: The Meeting, Boston, MA (Oct 30, 2022).
33. **Ray E**, Samaha Y. “How Many Operations Does It Take to Rebuild a Breast?” Plastic Surgery: The Meeting, Boston, MA (Oct 30, 2022).

34. Szymanski K, Chen H, Goli R, Lasky S, Huang X, **Ray E.** “Recognizing Cranial Sexual Dimorphism Using Artificial Intelligence and Machine Learning: Implications for Gender-Affirmation Surgery.” American Society for Reconstructive Microsurgery Annual Meeting in Miami, FL (Jan 24, 2023).
35. Chun Fat S, Samaha Y, Chung A, Boyle MK, Giuliano A, **Ray E,** Amersi F. “Accuracy of Preoperative Imaging and Role of Sentinel Lymph Node Biopsy in BRCA Mutation Carriers Undergoing Prophylactic Mastectomy” presented at Pacific Coast Surgical Association 94<sup>th</sup> Annual Meeting, in Monterey, CA (February 4, 2023).
36. **Ray E.** “Hot Topics in Technology-Beyond Reality: Artificial Intelligence, Virtual Reality, and Augmented Reality in Plastic Surgery.” American Association of Plastic Surgeons 101<sup>st</sup> Annual Meeting, Chicago, IL (May 1, 2023). Invited Panel Presentation.
37. Szymanski K, Munabi N, **Ray E.** “Delayed, Dramatic Breast Swelling in a Transgender Woman: A Case Report and Comprehensive Review of Literature.” Poster presented at Creighton University School of Medicine Research Symposium (May 2023).
38. Chun-Fat S, Samaha Y, Patel H, Garcia M and **Ray E.** “Strategies to Optimize Technique and Outcomes in First-Stage Gender-Affirming Free-Flap Phalloplasty.” Podium presentation at US Professional Association for Transgender Health (USPATH), Denver, CO (Nov 1, 2023).
39. Chun-Fat S, Moore J, Huang X and **Ray E.** “Artificial Intelligence and Machine Learning in Facial Feminization Surgery.” Podium presentation at US Professional Association for Transgender Health (USPATH), Denver, CO (Nov 2, 2023).

#### **Lay Press Pieces:**

Interviewed for “What is top surgery? A guide to the reconstructive chest procedure for transmasculine individuals” for **Insider.com** posted October 14, 2020.