



## Peter L. Santa Maria, MBBS, PhD

Associate Professor of Otolaryngology - Head & Neck Surgery (OHNS) and, by courtesy, of Bioengineering

Otolaryngology (Head and Neck Surgery)

 NIH Biosketch available Online

### CLINICAL OFFICE (PRIMARY)

- **Otolaryngology - Head and Neck Surgery**

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### ACADEMIC CONTACT INFORMATION

- **Administrative Contact**

Mario Gaspar - Administrative Coordinator

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### Bio

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#### BIO

Director of SPARK Global / Associate Director Stanford SPARK

Otology, Neurotology and Skull Base Surgery

Dr Peter Santa Maria is a surgeon scientist born and raised in Perth, Australia subspecializing in disorders affecting hearing, balance and the facial nerve. Along with his role as Director of SPARK Global and Associate Director of SPARK's therapeutic translational program, he co-leads the Otoinnovation Lab and is the co-Chair of the American Neurotology Society's Skull Base Tumors Study Section and Chair Emeritus of the American Academy of Otolaryngology's Medical Device and Drugs Committee.

His clinical practice and research is leading the path forward for innovating better treatments for hearing loss. His lab discovered a tympanic membrane regenerative therapy, completed pre clinical work that has led to ongoing clinical trials. They now are focused on the most challenging chronic ear infections developing therapies that minimize antibiotic resistance and use personalized techniques to target the route cause bacteria. His lab is also investigating novel treatments for inner ear disease including autoimmune inner ear disease and noise induced hearing loss. Dr Santa Maria is a leader in the field particularly having authored book chapters and published papers focusing on hearing preservation in cochlear implant surgery, surgical and treatments of ear tumors including vestibular schwannomas (acoustic neuromas), novel management of difficult to treat chronic ear infections and cholesteatoma and CSF leak repair.

He attended medical school at The University of Western Australia before undertaking his residency in Otolaryngology, Head and Neck Surgery. He was the Neurotology and Skull Base Surgery fellow at Sir Charles Gairdner Hospital (2012), Western Australia before undertaking a three year instructorship at Stanford University in Otology, Neurotology and Skull Base Surgery (2015). He joined Stanford faculty in 2017.

Scientifically, Dr Santa Maria completed his PhD in tympanic membrane (ear drum) wound healing at The University of Western Australia (2012). His tympanic regenerative discovery was accelerated through the SPARK program at Stanford, winning the "Excellence in Stanford SPARK 2014" award, later partnering with Auration Biotech and Astellas pharmaceuticals, to launch clinical trials in 2020. His research includes new devices and therapies for hearing loss. Dr Santa Maria co-

invented several medical devices and therapeutics that are in development. Two have won the "Robert Howard Next Step Award in Medical Technology Innovation". He is actively part of device research teams testing new devices that can monitor dizzy attacks in the home, non invasive ways to treat otitis media with effusion and ways to restore hearing without implanting the inner ear. His lab has discovered new antimicrobial therapeutics that act on the most resistant bacterial infections.

Clinically, Dr Santa Maria encompasses all areas of adult and pediatric surgery for hearing, balance and facial nerve disorders. He manages all areas of Neurotology including cholesteatoma, chronic otitis media, ear drum perforations and hearing reconstruction, otosclerosis and stapes surgery, eustachian tube surgery, tumors of the ear and skull base including acoustic neuroma, schwannoma, meningioma, glomus tumors, cholesterol granuloma, CSF leaks and squamous cell cancer of the ear as well as hearing implants, including cochlear implants (especially hearing preservation surgery) and bone anchored hearing aids.

## **CLINICAL FOCUS**

- acoustic neuroma
- cochlear implant
- facial nerve
- cholesteatoma
- otosclerosis
- skull base
- meningioma
- Eustachian tube
- superior semicircular canal dehiscence
- cerebellopontine angle
- glomus tumor
- bone anchored hearing aid
- ear tumor
- neurofibromatosis type 2
- tympanoplasty
- mastoidectomy
- ear cancer
- Cerebrospinal fluid leak repair
- encephalocele repair
- otitis media
- hearing loss
- Meniere Disease
- Neurotology
- vestibular schwannoma
- Stapes Surgery
- Tympanic Membrane Perforation

## **ACADEMIC APPOINTMENTS**

- Associate Professor - University Medical Line, Otolaryngology (Head and Neck Surgery)
- Associate Professor - University Medical Line (By courtesy), Bioengineering
- Member, Bio-X

- Member, SPARK at Stanford
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

### **ADMINISTRATIVE APPOINTMENTS**

- Director, SPARK Global, (2023- present)
- Associate Director, Stanford SPARK, (2018- present)
- Director, SPARK Co-Lab (Perth), (2016- present)

### **HONORS AND AWARDS**

- Robert Howard Next Step Award in Medical Technology Innovation, Stanford Biodesign (2018)
- 40 under 40 winner, Perth, Australia (2017)
- Robert Howard Next Step Award in Medical Technology Innovation, Stanford Biodesign (2015)
- William E. Eaglestein Award for Excellence in SPARK, Stanford SPARK (2014)
- Research Grants / Awards: Principal Surgeon Scientist Award, Garnett Passe and Rodney Williams Memorial Foundation (2012-present)
- Surgeon Scientist Award, Garnett Passe and Rodney Williams Memorial Foundation (2006-2008)
- William Allnutt & May G Saw Medical Research Scholarship, The University of Western Australia (2005)
- Simon Seow Memorial Prize in Public Health, The University of Western Australia (2000)
- Western Australian Medical Students Society Person of the Year, Western Australian Medical Students Society (1999)

### **BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS**

- Board Member, Lions Hearing Foundation Board, Perth (2016 - 2017)
- Chief of Scientific Advisory Board, Auration Biotech (2015 - present)
- Member, Ear Science Institute of Australia – Research Committee (2015 - 2017)
- Member, American Academy of Otolaryngology, Head and Neck Surgery Hearing Committee (2015 - 2016)
- Member, American Academy of Otolaryngology, Head and Neck Surgery Implantable Devices Committee (2015 - 2016)
- Chief of Scientific Advisory Board, Flo-Therm (2014 - present)
- Member, Journal of Laryngology and Otology (Australian Supplement) - Editorial board (2014 - 2017)
- Member, American Academy of Otolaryngology, Head and Neck Surgery Skull Base Surgery Committee (2014 - 2016)
- Councillor, Australian Medical Association of Western Australia (2000 - 2000)
- President, Western Australian Medical Students Society (2000 - 2000)

### **PROFESSIONAL EDUCATION**

- Board Certification: Otolaryngology, Royal Australasian College of Surgeons (2012)
- Residency: Royal Australian College of Surgeons (2011) Australia
- Fellowship: Sir Charles Gairdner Hospital (2012) WA Australia
- Instructorship, Stanford University , Otolaryngology, Neurotology, Skull Base Surgery (2015)
- Fellowship, Sir Charles Gairdner Hospital , Otolaryngology, Neurotology, Skull Base Surgery (2012)
- Residency: Sir Charles Gairdner Hospital (2005) WA Australia
- Internship: Sir Charles Gairdner Hospital (2002) WA Australia
- Residency / FRACS, The Royal Australian College of Surgeons , Otolaryngology, Head and Neck Surgery (2011)

- Medical Education: University of Western Australia (2002) WA Australia
- MBBS, The University of Western Australia , Medicine / Surgery (2001)
- PhD, The University of Western Australia (2012)

## LINKS

- Get a Second Opinion: <https://stanfordhealthcare.org/second-opinion/overview.html>

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

#### CSOM

We are working on understanding we we lose sensory hearing after a chronic middle ear infection. We are understanding the pathogenesis of the disease early on, particularly as it transitions into a chronic infection, including the early immune response and host microbe interactions. We are collaborating to test new novel treatments that can treat pseudomonas and staphylococcus biofilms in chronic suppurative otitis media using a novel rodent model created in our lab.

#### Tympanic membrane regeneration

We developed a novel treatment for healing chronic tympanic membrane perforations which we have recently partnered with Astellas pharmaceuticals aiming for a clinical trial in the coming years. This treatment is delivered by hydrogel to heal the ear drum without surgery. We are also working on a therapy to prevent tympanic membrane wound healing that could be used as an alternative to pressure equalization tubes.

#### Growth factor therapy for intra oral wound healing

Using rodent models for intra oral wound healing we are currently testing new growth factor therapy for healing in intra oral wounds with potential applications to prevent post tonsillectomy wound healing.

#### Medical devices

We have invented, prototyped and tested clinically a new medical device for maintaining perioperative normothermia with significant increased efficacy compared to the current standard of care

#### Clinical research

Evaluating outcomes of stereotactic radiation for vestibular schwannoma

## Teaching

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### STANFORD ADVISEES

#### Postdoctoral Faculty Sponsor

Viktoria Schiel

## Publications

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### PUBLICATIONS

- **Salvage Microsurgery Following Failed Primary Radiosurgery in Sporadic Vestibular Schwannoma.** *JAMA otolaryngology-- head & neck surgery*  
Marinelli, J. P., Herberg, H. A., Moore, L. S., Yancey, K. L., Kay-Rivest, E., Casale, G. G., Durham, A., Khandalavala, K. R., Lund-Johansen, M., Kosaraju, N., Lohse, C. M., Patel, N. S., Gurgel, et al  
2024

- **SPARKing academic technologies across the valley of death.** *Nature biotechnology*  
Kim, J. S., Kargotich, S., Lee, S. H., Yajima, R., Garcia, A. A., Ehrenkaufer, G., Romeo, M., Maria, P. S., Grimes, K. V., Mochly-Rosen, D.  
2024; 42 (2): 339-342
- **PANEL 3: Otitis media animal models, cell culture, tissue regeneration & pathophysiology.** *International journal of pediatric otorhinolaryngology*  
Kurabi, A., Dewan, K., Kerschner, J. E., Leichtle, A., Li, J. D., Santa Maria, P. L., Preciado, D.  
2023; 176: 111814
- **Eradication of Bacterial Persister Cells By Leveraging Their Low Metabolic Activity Using Adenosine Triphosphate Coated Gold Nanoclusters.** *Nano today*  
Bekale, L. A., Sharma, D., Bacacao, B., Chen, J., Santa Maria, P. L.  
2023; 51
- **Influence of CX3CR1 Deletion on Cochlear Hair Cell Survival and Macrophage Expression in Chronic Suppurative Otitis Media.** *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*  
Schiel, V., Xia, A., Santa Maria, P. L.  
2023; 44 (6): 605-610
- **Eradication of bacterial persister cells by leveraging their low metabolic activity using adenosine triphosphate coated gold nanoclusters** *NANO TODAY*  
Bekale, L. A., Sharma, D., Bacacao, B., Chen, J., Maria, P.  
2023; 51
- **Impact of Cochlear Dose on Hearing Preservation Following Stereotactic Radiosurgery in Treatment of Vestibular Schwannomas: A Multi-center Study.** *World neurosurgery*  
Chang, S. D., Muacevic, A., Klein, A. L., Sherman, J. H., Romanelli, P., Santa Maria, P. L., Fuerweger, C., Bossi Zanetti, I., Beltramo, G., Vaisbush, Y., Tran, E., Feng, A., Teng, et al  
2023
- **Bio-Inspired Muco-Adhesive Polymers for Drug Delivery Applications.** *Polymers*  
Jawadi, Z., Yang, C., Haidar, Z. S., Santa Maria, P. L., Massa, S.  
2022; 14 (24)
- **Povidone-Iodine Fails to Eradicate Chronic Suppurative Otitis Media and Demonstrates Ototoxic Risk in Mice.** *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*  
Kaufman, A. C., Bacacao, B. S., Berkay, B., Sharma, D., Mishra, A., O'Toole, G. A., Saunders, J. E., Xia, A., Bekale, L. A., Santa Maria, P. L.  
2022
- **New Medical Device and Therapeutic Approvals in Otolaryngology: State of the Art Review of 2021.** *OTO open*  
Choi, A. M., Brenner, M. J., Gorelik, D., Erbele, I. D., Crowson, M. G., Kadkade, P., Takashima, M., Santa Maria, P. L., Hong, R. S., Rose, A. S., Ostrander, B. T., Rabbani, C. C., Morrison, et al  
2022; 6 (3): 2473974X221126495
- **Chronic suppurative otitis media causes macrophage-associated sensorineural hearing loss.** *Journal of neuroinflammation*  
Xia, A., Thai, A., Cao, Z., Chen, X., Chen, J., Bacacao, B., Bekale, L. A., Schiel, V., Bollyky, P. L., Maria, P. L.  
2022; 19 (1): 224
- **Anti-persister and Anti-biofilm Activity of Self-Assembled Antimicrobial Peptoid Ellipsoidal Micelles.** *ACS infectious diseases*  
Lin, J. S., Bekale, L. A., Molchanova, N., Nielsen, J. E., Wright, M., Bacacao, B., Diamond, G., Jenssen, H., Santa Maria, P. L., Barron, A. E.  
2022
- **Gold nanocluster adjuvant enables the eradication of persister cells by antibiotics and abolishes the emergence of resistance.** *Nanoscale*  
Cao, Z., Chen, X., Chen, J., Xia, A., Bacacao, B., Tran, J., Sharma, D., Bekale, L. A., Santa Maria, P. L.  
2022
- **Minimally invasive trans-tympanic eustachian tube occlusion animal model.** *International journal of pediatric otorhinolaryngology*  
Kouhi, A., Xia, A., Khomtchouk, K., Santa Maria, P. L.  
2022; 156: 111070
- **New Medical Device and Therapeutic Approvals in Otolaryngology: State of the Art Review 2020.** *OTO open*  
Brenner, M. J., Shenson, J. A., Rose, A. S., Valdez, T. A., Takashima, M., Ahmed, O. G., Weissbrod, P. A., Hong, R. S., Djalilian, H., Wolf, J. S., Morrison, R. J., Santa Maria, P. L., Erbele, et al

2021; 5 (4): 2473974X211057035

- **Topical Therapy Failure in Chronic Suppurative Otitis Media is Due to Persister Cells in Biofilms.** *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*  
 Santa Maria, P. L., Kaufman, A. C., Bacacao, B., Thai, A., Chen, X., Xia, A., Cao, Z., Fouad, A., Bekale, L. A.  
 2021
- **Middle Cranial Fossa Approach to Repair Tegmen Dehiscence Using Self-setting Calcium Phosphate Cement: A Retrospective Case Review.** *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*  
 Bulsara, V. M., Kim, G. S., Fouad, A. M., Bulsara, M. K., Santa Maria, P. L.  
 2021
- **Antimicrobial Gold Nanoclusters Eradicate Escherichia coli Biofilms and Are Nontoxic by Oral Administration.** *ACS applied bio materials*  
 Cao, Z., Chen, J., Tran, J., Chen, X., Bacacao, B., Bekale, L. A., Santa Maria, P. L.  
 2020; 3 (8): 5275-5286
- **Long-Term Hearing Outcomes Following Stereotactic Radiosurgery in Vestibular Schwannoma Patients-A Retrospective Cohort Study**  
 Santa Maria, P. L., Shi, Y., Gurgel, R. K., Corrales, C., Soltys, S. G., Santa Maria, C., Murray, K., Chang, S. D., Blevins, N. H., Gibbs, I. C., Jackler, R. K.  
 OXFORD UNIV PRESS INC.2019: 550-59
- **Single Administration of a Sustained-Release Formulation of KB-R7785 Inhibits Tympanic Membrane Regeneration in an Animal Model** *JOURNAL OF INTERNATIONAL ADVANCED OTOLOGY*  
 Maria, P. L., Maria, C. S., Kim, S., Yang, Y. P.  
 2016; 12 (3): 237-240
- **Heparin Binding Epidermal Growth Factor-Like Growth Factor Heals Chronic Tympanic Membrane Perforations With Advantage Over Fibroblast Growth Factor 2 and Epidermal Growth Factor in an Animal Model** *OTOLOGY & NEUROTOLOGY*  
 Maria, P. L., Weierich, K., Kim, S., Yang, Y. P.  
 2015; 36 (7): 1279-1283
- **Heparin Binding Epidermal Growth Factor-Like Growth Factor Heals Chronic Tympanic Membrane Perforations With Advantage Over Fibroblast Growth Factor 2 and Epidermal Growth Factor in an Animal Model.** *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*  
 Santa Maria, P. L., Weierich, K., Kim, S., Yang, Y. P.  
 2015; 36 (7): 1279-83
- **A new theory on the pathogenesis of acquired cholesteatoma: Mucosal traction.** *Laryngoscope*  
 Jackler, R. K., Santa Maria, P. L., Varsak, Y. K., Nguyen, A., Blevins, N. H.  
 2015; 125: S1-S14
- **Heparin Binding-Epidermal Growth Factor-Like Growth Factor for the Regeneration of Chronic Tympanic Membrane Perforations in Mice** *TISSUE ENGINEERING PART A*  
 Maria, P. L., Kim, S., Varsak, Y. K., Yang, Y. P.  
 2015; 21 (9-10): 1483-1494
- **Hearing Preservation Surgery for Cochlear Implantation: A Meta-analysis** *OTOLOGY & NEUROTOLOGY*  
 Maria, P. L., Gluth, M. B., Yuan, Y., Atlas, M. D., Blevins, N. H.  
 2014; 35 (10): E256-E269
- **Hearing preservation surgery for cochlear implantation: a meta-analysis.** *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*  
 Santa Maria, P. L., Gluth, M. B., Yuan, Y., Atlas, M. D., Blevins, N. H.  
 2014; 35 (10): e256-69
- **Sigmoid sinus dehiscence resurfacing as treatment for pulsatile tinnitus.** *The Journal of laryngology and otology*  
 Santa Maria, P. L.  
 2013: 1-3
- **Hearing Preservation Surgery for Cochlear Implantation-Hearing and Quality of Life After 2 Years** *OTOLOGY & NEUROTOLOGY*  
 Maria, P. L., Domville-Lewis, C., Sucher, C. M., Chester-Browne, R., Atlas, M. D.  
 2013; 34 (3): 526-531

- **Tympanic Membrane Wound Healing in Rats Assessed by Transcriptome Profiling** *LARYNGOSCOPE*  
Santa Maria, P. L., Redmond, S. L., McInnes, R. L., Atlas, M. D., Ghassemifar, R.  
2011; 121 (10): 2199-2213
- **Tumor Control Following Stereotactic Radiosurgery in Patients with Vestibular Schwannomas - A Retrospective Cohort Study.** *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otolaryngology and Neurotology*  
Santa Maria, P. L., Shi, Y., Aaron, K. A., Gurgel, R. K., Corrales, C. E., Soltys, S. G., Santa Maria, C., Chang, S. D., Blevins, N. H., Jackler, R. K., Gibbs, I. C.  
2021
- **Stereotactic Radiosurgery for Vestibular Schwannoma Outcomes in Patients With Perfect Word Recognition-A Retrospective Cohort Study.** *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otolaryngology and Neurotology*  
Fouad, A. n., Tran, E. D., Feng, A. Y., Alyono, J. C., Ma, Y. n., Blevins, N. H., Jackler, R. K., Santa Maria, P. L.  
2021
- **Long-Term Health Utilization and Outcomes in Chronic Suppurative Otitis Media.** *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*  
Thai, A., Aaron, K. A., Kaufman, A. C., Santa Maria, P. L.  
2021: 1945998211050626
- **Locally administered heparin-binding epidermal growth factor-like growth factor reduces radiation-induced oral mucositis in mice.** *Scientific reports*  
Chen, J., Bekale, L. A., Khomtchouk, K. M., Xia, A., Cao, Z., Ning, S., Knox, S. J., Santa Maria, P. L.  
2020; 10 (1): 17327
- **Antimicrobial Gold Nanoclusters Eradicate Escherichia coli Biofilms and Are Nontoxic by Oral Administration** *ACS APPLIED BIO MATERIALS*  
Cao, Z., Chen, J., Tran, J., Chen, X., Bacacao, B., Bekale, L. A., Santa Maria, P. L.  
2020; 3 (8): 5275-86
- **A Review of the Contribution of Mast Cells in Wound Healing: Involved Molecular and Cellular Mechanisms** *CLINICAL REVIEWS IN ALLERGY & IMMUNOLOGY*  
Komi, D., Khomtchouk, K., Maria, P.  
2020; 58 (3): 298-312
- **A design-thinking approach to therapeutic translation: tympanic regeneration.** *Current opinion in otolaryngology & head and neck surgery*  
Santa Maria, P. L.  
2020
- **New Medical Device and Therapeutic Approvals in Otolaryngology: State of the Art Review of 2019.** *OTO open*  
Rameau, A. n., Hong, R. S., Djalilian, H. n., Erbele, I. D., Phillips, K. M., Capasso, R. n., Rose, A. S., Brenner, M. J., Santa Maria, P. L.  
2020; 4 (2): 2473974X20932506
- **A novel mouse model of chronic suppurative otitis media and its use in preclinical antibiotic evaluation.** *Science advances*  
Khomtchouk, K. M., Kouhi, A. n., Xia, A. n., Bekale, L. A., Massa, S. M., Sweere, J. M., Pletzer, D. n., Hancock, R. E., Bollyky, P. L., Santa Maria, P. L.  
2020; 6 (33): eabc1828
- **Long-term quality of life in patients with vestibular schwannoma managed with microsurgery.** *The Journal of laryngology and otology*  
Santa Maria, C., Santa Maria, P. L., Bulsara, V., Jayawardena, J., Caldwell, J. D., Png, L. H., Atlas, M. D.  
2019: 1-7
- **Quantitative assessment of bacterial growth phase utilizing flow cytometry.** *Journal of microbiological methods*  
Khomtchouk, K. M., Weglarz, M., Bekale, L. A., Kolesnik, I., Bollyky, P. L., Santa Maria, P. L.  
2019: 105760
- **A Review of the Contribution of Mast Cells in Wound Healing: Involved Molecular and Cellular Mechanisms.** *Clinical reviews in allergy & immunology*  
Komi, D. E., Khomtchouk, K., Santa Maria, P. L.  
2019
- **Sensorineural Hearing Loss in the Nonimplanted Ear Following Cochlear Implantation in a Patient With Bilateral Enlarged Vestibular Aqueducts.** *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otolaryngology and Neurotology*  
Vaisbuch, Y. n., Thai, A. n., Pirko, S. L., Santa Maria, P. L.

2019

- **Predicting sequential bilateral cochlear implantation performance in postlingually deafened adults; A retrospective cohort study** *CLINICAL OTOLARYNGOLOGY*  
 Smulders, Y. E., Hendriks, T., Stegeman, I., Eikelboom, R. H., Sucher, C., Upson, G., Browne, R., Jayakody, D., Santa Maria, P. L., Atlas, M. D., Friedland, P. L.  
 2018; 43 (6): 1500–1507
- **Long-Term Hearing Outcomes Following Stereotactic Radiosurgery in Vestibular Schwannoma Patients-A Retrospective Cohort Study.** *Neurosurgery*  
 Santa Maria, P. L., Shi, Y., Gurgel, R. K., Corrales, C. E., Soltys, S. G., Santa Maria, C., Murray, K., Chang, S. D., Blevins, N. H., Gibbs, I. C., Jackler, R. K.  
 2018
- **Optical Coherence Tomography of the Tympanic Membrane and Middle Ear: A Review**  
 Tan, H., Maria, P., Wijesinghe, P., Kennedy, B., Allardyce, B., Eikelboom, R., Atlas, M., Dilley, R.  
 SAGE PUBLICATIONS LTD.2018: 424–38
- **Age-Related Hearing Loss: Innovations in Hearing Augmentation.** *Otolaryngologic clinics of North America*  
 Vaisbuch, Y., Santa Maria, P. L.  
 2018
- **In reference to Evidence against the mucosal traction theory in cholesteatoma.** *The Laryngoscope*  
 Jackler, R. K., Santa Maria, P. L., Blevins, N. H.  
 2018
- **Biomedical device innovation methodology: applications in biophotonics** *JOURNAL OF BIOMEDICAL OPTICS*  
 Beswick, D. M., Kaushik, A., Beinart, D., McGarry, S., Yew, M., Kennedy, B. F., Maria, P.  
 2018; 23 (2)
- **Epithelial separation theory for post-tonsillectomy secondary hemorrhage: evidence in a mouse model and potential heparin-binding epidermal growth factor-like growth factor therapy** *EUROPEAN ARCHIVES OF OTO-RHINO-LARYNGOLOGY*  
 Beswick, D. M., Santa Maria, C., Ayoub, N. F., Capasso, R., Santa Maria, P.  
 2018; 275 (2): 569–78
- **A novel thermal compression device for perioperative warming: a randomized trial for feasibility and efficacy** *BMC ANESTHESIOLOGY*  
 Maria, P., Maria, C., Eisenried, A., Velasquez, N., Kannard, B., Ramani, A., Kahn, D., Wheeler, A., Brock-Utne, J.  
 2017; 17: 102
- **Functional Outcomes of Heparin-Binding Epidermal Growth Factor-Like Growth Factor for Regeneration of Chronic Tympanic Membrane Perforations in Mice** *TISSUE ENGINEERING PART A*  
 Maria, P. L., Gottlieb, P., Maria, C. S., Kim, S., Puria, S., Yang, Y. P.  
 2017; 23 (9-10): 436-444
- **Functional Outcomes of Heparin Binding - Epidermal Growth Factor Like Growth Factor for Regeneration of Chronic Tympanic Membrane Perforations in Mice.** *Tissue engineering. Part A*  
 Santa Maria, P. L., Gottlieb, P., Santa Maria, C., Puria, S., Kim, S., Yang, Y. P.  
 2017
- **Predicting Sequential Cochlear Implantation Performance: A Systematic Review** *AUDIOLOGY AND NEURO-OTOLOGY*  
 Smulders, Y., Hendriks, T., Eikelboom, R., Stegeman, I., Santa Maria, P., Atlas, M., Friedland, P.  
 2017; 22 (6): 356–63
- **No systemic exposure of transtympanic heparin-binding epidermal growth factor like growth factor.** *Drug and chemical toxicology*  
 Santa Maria, P. L., Kim, S., Yang, Y. P.  
 2016; 39 (4): 451-454
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 2016; 37 (7): 838-846
- **Ossicular calisthenics: Pneumomassage of the tympanic membrane** *LARYNGOSCOPE*  
 Mudry, A., Maria, P. S., Jackler, R. K.  
 2016; 126 (5): 1180-1186



- **Iatrogenic Phenol Injury Causing Facial Paralysis With Tympanic Membrane and Ossicular Necrosis** *OTOLOGY & NEUROTOLOGY*  
Maria, P. L., Corrales, C. E., Sevy, A. B., Jackler, R. K.  
2016; 37 (4): 385-387
- **In Response to the Letter to the Editor Regarding: Heparin Binding-Epidermal Growth Factor-Like Growth Factor for the Regeneration of Chronic Tympanic Membrane Perforations in Mice.** *Tissue engineering. Part A*  
Santa Maria, P. L., Kim, S., Varsak, Y. K., Yang, Y. P.  
2016; 22 (5-6): 570-571
- **Mouse model of experimental Eustachian tube occlusion: a surgical technique** *ACTA OTO-LARYNGOLOGICA*  
Varsak, Y. K., Maria, P. L.  
2016; 136 (1): 12-17
- **In reference to A new theory on the pathogenesis of acquired cholesteatoma: Mucosal traction.** *Laryngoscope*  
Jackler, R. K., Santa Maria, P. L., Varsak, Y. K., Blevins, N. H., Nguyen, A.  
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- **A new theory on the pathogenesis of acquired cholesteatoma: Mucosal traction** *LARYNGOSCOPE*  
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