


Stanford



Alan G. Cheng, MD

Edward C. and Amy H. Sewall Professor in the School of Medicine, Professor of Otolaryngology - Head & Neck Surgery (OHNS) and, by courtesy, of Pediatrics Otolaryngology - Head & Neck Surgery Divisions

 Curriculum Vitae available Online

CLINICAL OFFICES

- **Stanford Ear Institute**

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- **Stanford Dept of Otolaryngology, Head and Neck Surgery**

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ACADEMIC CONTACT INFORMATION

- **Administrative Contact**

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Bio

BIO

Dr. Alan Cheng received his B.S. in Biomedical Engineering at the Johns Hopkins University, graduating Phi Beta Kappa and Tau Beta Pi. He then received his M.D. degree from the Albert Einstein College of Medicine and graduated with distinction in research in otobiology. Dr. Cheng pursued his residency training in Department of Otolaryngology-Head and Neck Surgery at University of Washington. During residency, he undertook a two-year NIH-sponsored research fellowship investigating mechanisms of hair cell degeneration. After residency he sought fellowship training in pediatric otolaryngology in Children's Hospital Boston, Harvard Medical School.

Alan Cheng joined the Department of Otolaryngology-Head and Neck Surgery at Stanford University as a surgeon-scientist in 2007. His clinical practice based at the Stanford Ear Institute and Lucile Packard Children's Hospital focuses on otologic diseases including congenital hearing loss and cochlear implantation, and chronic ear diseases in the pediatric population. In parallel, his research program focuses on inner ear hair cell development and regeneration. He has received funding from NIH, Department of Defense, the American Otological Society, and California Institute for Regenerative Medicine for this research endeavor.

CLINICAL FOCUS

- Otolaryngology
- Hearing loss
- Cholesteotoma
- Pediatric sinus disease
- Pediatric head and neck tumors

ACADEMIC APPOINTMENTS

- Professor, Otolaryngology - Head & Neck Surgery Divisions

- Professor (By courtesy), Pediatrics - Operations
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Specialty Career Advisor, Otolaryngology, Office of Medical Student Affairs, (2020-2022)
- Chief, Division of Pediatric Otolaryngology, (2019- present)
- Director, Stanford clinician-scientist training program, (2016- present)

HONORS AND AWARDS

- Association for Research in Otolaryngology Resident Travel Award, Association for Research in Otolaryngology (2001, 2002, 2005)
- Shiley Resident Research Award, American Academy of Otolaryngology-Head and Neck Surgery Foundation (2001)
- Percy Memorial Research Award, American Academy of Otolaryngology-Head and Neck Surgery Foundation (2008)
- American Otological Society Clinician-Scientist Award, American Otological Society (2008)
- Triological Society Career Development Award, Triological Society (2009)
- Herbert Silverstein Otolaryngology-Neurology Award, American Academy of Otolaryngology-Head and Neck Surgery (2010)
- Akiko Yamazaki and Jerry Yang Faculty Scholar, Child Health Research Institute at Stanford (2011)
- Bass Society of Pediatric Scholars, Stanford Children's Health (2012)
- American Academy of Otolaryngology-HNS Foundation Honor award, American Academy of Otolaryngology-HNS Foundation (2013)
- Geraldine Dietz Fox Young Investigator Award, National Organization of Hearing Research/Johns Hopkins University (2015)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Chair, American Society of Pediatric Otolaryngologist Research Committee (2014 - 2016)
- Member, Association of Research in Otolaryngology Program Committee (2013 - 2020)
- Member, Hearing committee, American Academy of Otolaryngology-Head and Neck Surgery (2014 - 2017)
- Member, Provost's Advisory Committee on Postdoctoral Affairs (2012 - 2020)
- Member, Pediatric Education Committee, American Academy of Otolaryngology-Head and Neck Surgery (2014 - present)
- Member, CORE Grant study section, American Academy of Otolaryngology-HNS (2008 - present)

PROFESSIONAL EDUCATION

- Board Certification: Pediatric Otolaryngology, American Board of Otolaryngology (2021)
- Internship: University of Washington Medical Center (2000) WA
- Fellowship: Children's Hospital Boston (2007) MA
- Board Certification: Otolaryngology, American Board of Otolaryngology (2007)
- Residency, University of Washington , Otolaryngology-HNS (2006)
- M.D., Albert Einstein , Medicine (1999)
- B.S., Johns Hopkins , Biomedical Engineering (1995)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

The overarching goal of our research group is to restore/protect auditory function. The irreversible loss of mechanosensitive hair cells in the cochlea causes permanent hearing loss. Mammals lack the ability to spontaneously regenerate hair cells and restore hearing. Wnt signaling is a recurrent theme playing crucial roles in the development of multicellular organisms as well as tissue and cellular homeostasis including the maintenance of stem/progenitor cells. To understand how to regenerate the inner ear, our group has been studying Wnt-responsive progenitor cells in the mammalian cochlea. We take in vitro and in vivo approaches to study the behavior of these putative progenitor cells both during development and after damage in the mature animal. In particular, we are interested in how cell fate decision is made when these progenitor cells differentiate and how Wnt signaling (and other signals) directly and indirectly affects their decision. Techniques include genetic and pharmacologic manipulations, flow cytometry, cell and organotypic cultures, and confocal and time-lapse imaging, single cell and whole animal physiological testing.

A second direction of our laboratory is to understand how the aminoglycoside antibiotics enter the inner ear. These commonly prescribed antibiotics selectively damage inner ear hair cells leading to hearing loss. We are interested in understanding how it enters the blood-labyrinth barrier and its subsequent transport into hair cells. One main focus is to re-design aminoglycosides to preclude their entry into the inner ear.

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Julia Abitbol, Ippei Kishimoto, Yu-Jin Lee, Lindsay Moore, Jason Qian

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Neurosciences (Phd Program)
- Pediatric Otolaryngology (Fellowship Program)

Publications

PUBLICATIONS

- **Repair of surviving hair cells in the damaged mouse utricle.** *Proceedings of the National Academy of Sciences of the United States of America*
Kim, G. S., Wang, T., Sayyid, Z. N., Fuhrman, J., Jones, S. M., Cheng, A. G.
2022; 119 (15): e2116973119
- **Identifying targets to prevent aminoglycoside ototoxicity.** *Molecular and cellular neurosciences*
Kim, J., Hemachandran, S., Cheng, A. G., Ricci, A. J.
2022: 103722
- **Use of Polysomnography and CPAP in Children Who Received Adenotonsillectomy, US 2004 to 2018.** *The Laryngoscope*
Qian, Z. J., Howard, J. M., Cohen, S. M., Jin, M. C., Bhargava, S., Cheng, A. G., Valdez, T. A.
2022
- **Surgical Approach for Rapid and Minimally Traumatic Recovery of Human Inner Ear Tissues from Deceased Organ Donors.** *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otolology and Neurotology*
Vaisbuch, Y., Hosseini, D. K., Wagner, A., Hirt, B., Mueller, M., Ponnusamy, R., Heller, S., Cheng, A. G., Lowenheim, H., Aaron, K. A.
2022
- **Infectious Complications Following Cochlear Implant: Risk Factors, Natural History, and Management Patterns.** *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*
Moon, P. K., Qian, Z. J., Ahmad, I. N., Stankovic, K. M., Chang, K. W., Cheng, A. G.
2022: 1945998221082530

- **Selection Criteria Optimal for Recovery of Inner Ear Tissues from Deceased Organ Donors.** *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*
Aaron, K. A., Hosseini, D. K., Vaisbuch, Y., Scheibinger, M., Grillet, N., Heller, S., Wang, T., Cheng, A. G.
2022
- **Lineage-tracing and translatomic analysis of damage-inducible mitotic cochlear progenitors identifies candidate genes regulating regeneration.** *PLoS biology*
Udagawa, T., Atkinson, P. J., Milon, B., Abitbol, J. M., Song, Y., Sperber, M., Huarcaya Najarro, E., Scheibinger, M., Elkon, R., Hertzano, R., Cheng, A. G.
2021; 19 (11): e3001445
- **MRI Correlates of Ototoxicity in the Auditory Pathway in Children Treated for Medulloblastoma.** *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*
Moon, P., Theruvath, J., Chang, J., Song, Y., Shpanskaya, K., Maleki, M., Cheng, A. G., Ahmad, I. N., Yeom, K. W.
2021
- **Comments on Use of Diagnostic Testing and Intervention for Sensorineural Hearing Loss in US Children-Reply.** *JAMA otolaryngology-- head & neck surgery*
Qian, Z. J., Chang, K. W., Cheng, A. G.
2021
- **Trends and Healthcare Use Following Different Cholesteatoma Surgery Types in a National Cohort, 2003-2019.** *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*
Qian, Z. J., Tran, E. D., Alyono, J. C., Cheng, A. G., Ahmad, I. N., Chang, K. W.
2021
- **Spatiotemporal dynamics of inner ear sensory and non-sensory cells revealed by single-cell transcriptomics.** *Cell reports*
Jan, T. A., Eltawil, Y., Ling, A. H., Chen, L., Ellwanger, D. C., Heller, S., Cheng, A. G.
2021; 36 (2): 109358
- **Imaging alloreactive T cells provides early warning of organ transplant rejection.** *JCI insight*
Hirai, T., Mayer, A. T., Nobashi, T. W., Lin, P., Xiao, Z., Udagawa, T., Seo, K., Simonetta, F., Baker, J., Cheng, A. G., Negrin, R. S., Gambhir, S. S.
2021; 6 (13)
- **Assessment of auditory and vestibular damage in a mouse model after single and triple blast exposures.** *Hearing research*
Mao, B., Wang, Y., Balasubramanian, T., Urioste, R., Wafa, T., Fitzgerald, T. S., Haraczy, S. J., Edwards-Hollingsworth, K., Sayyid, Z. N., Wilder, D., Sajja, V. S., Wei, Y., Arun, et al
2021; 407: 108292
- **Opposing effects of Wnt/beta-catenin signaling on epithelial and mesenchymal cell fate in the developing cochlea.** *Development (Cambridge, England)*
Billings, S. E., Myers, N. M., Quiruz, L., Cheng, A. G.
2021; 148 (11)
- **Editorial: Epidemiology and Genetics of Vestibular Disorders.** *Frontiers in neurology*
Lopez-Escamez, J. A., Cheng, A. G., Grill, E., Liu, T.
2021; 12: 743379
- **Gpr125 Marks Distinct Cochlear Cell Types and Is Dispensable for Cochlear Development and Hearing.** *Frontiers in cell and developmental biology*
Sun, H., Wang, T., Atkinson, P. J., Billings, S. E., Dong, W., Cheng, A. G.
2021; 9: 690955
- **Outpatient healthcare use and outcomes after pediatric tracheostomy.** *International journal of pediatric otorhinolaryngology*
Qian, Z. J., Megwalu, U. C., Cheng, A. G., Balakrishnan, K.
2021; 151: 110963
- **Use of Diagnostic Testing and Intervention for Sensorineural Hearing Loss in US Children From 2008 to 2018.** *JAMA otolaryngology-- head & neck surgery*
Qian, Z. J., Chang, K. W., Ahmad, I. N., Tribble, M. S., Cheng, A. G.
2020
- **Dissociating antibacterial from ototoxic effects of gentamicin C-subtypes.** *Proceedings of the National Academy of Sciences of the United States of America*
O'Sullivan, M. E., Song, Y., Greenhouse, R., Lin, R., Perez, A., Atkinson, P. J., MacDonald, J. P., Siddiqui, Z., Lagasca, D., Comstock, K., Huth, M. E., Cheng, A. G., Ricci, et al

2020

- **Opioid Prescribing Patterns Following Pediatric Tonsillectomy in the United States, 2009-2017.** *The Laryngoscope*
Qian, Z. J., Alyono, J. C., Jin, M. C., Cooperman, S. P., Cheng, A. G., Balakrishnan, K.
2020
- **Congenital Orocutaneous Fistula Associated With Ectopic Salivary Glands and Submandibular Gland Aplasia.** *The Laryngoscope*
Trieu, V., Hosseini, D. K., Kim, G. S., Truong, M. T., Cheng, A. G.
2020
- **Cerebral volume and diffusion MRI changes in children with sensorineural hearing loss.** *NeuroImage. Clinical*
Moon, P. K., Qian, J. Z., McKenna, E. n., Xi, K. n., Rowe, N. C., Ng, N. N., Zheng, J. n., Tam, L. T., MacEachern, S. J., Ahmad, I. n., Cheng, A. G., Forkert, N. D., Yeom, et al
2020; 27: 102328
- **Dual regulation of planar polarization by secreted Wnts and Vangl2 in the developing mouse cochlea.** *Development (Cambridge, England)*
Huarcaya Najarro, E., Huang, J., Jacobo, A., Quiruz, L. A., Grillet, N., Cheng, A. G.
2020
- **Congenital Hearing Loss Is Associated With a High Incidence of Central Nervous System Abnormalities.** *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*
Sayyid, Z. N., Boldt, B. n., Mokhtari, T. E., Schoppy, K. n., Yeom, K. W., Cheng, A. G.
2020
- **Dual regulation of planar polarization by secreted Wnts and Vangl2 in the developing mouse cochlea.** *Development (Cambridge, England)*
Huarcaya Najarro, E. n., Huang, J. n., Jacobo, A. n., Quiruz, L. A., Grillet, N. n., Cheng, A. G.
2020
- **International Pediatric Otolaryngology Group (IPOG) Consensus Recommendations: Congenital Cholesteatoma.** *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*
Denoyelle, F., Simon, F., Chang, K. W., Chan, K. H., Cheng, A. G., Cheng, A. T., Choo, D. I., Daniel, S. J., Farinetti, A., Garabedian, E., Greinwald, J. H., Hoff, S. R., Hone, et al
2019
- **beta-Catenin is required for radial cell patterning and identity in the developing mouse cochlea.** *Proceedings of the National Academy of Sciences of the United States of America*
Jansson, L., Ebeid, M., Shen, J. W., Mokhtari, T. E., Quiruz, L. A., Ormitz, D. M., Huh, S., Cheng, A. G.
2019
- **Atoh1 Directs Regeneration and Functional Recovery of the Mature Mouse Vestibular System.** *Cell reports*
Sayyid, Z. N., Wang, T., Chen, L., Jones, S. M., Cheng, A. G.
2019; 28 (2): 312
- **Uncoordinated maturation of developing and regenerating postnatal mammalian vestibular hair cells.** *PLoS biology*
Wang, T. n., Niwa, M. n., Sayyid, Z. N., Hosseini, D. K., Pham, N. n., Jones, S. M., Ricci, A. J., Cheng, A. G.
2019; 17 (7): e3000326
- **Direct cellular reprogramming and inner ear regeneration.** *Expert opinion on biological therapy*
Atkinson, P. J., Kim, G. S., Cheng, A. G.
2018
- **Aminoglycoside ribosome interactions reveal novel conformational states at ambient temperature** *NUCLEIC ACIDS RESEARCH*
O'Sullivan, M. E., Poitevin, F., Sierra, R. G., Gati, C., Dao, E., Rao, Y., Aksit, F., Ciftci, H., Corsepilus, N., Greenhouse, R., Hayes, B., Hunter, M. S., Liang, et al
2018; 46 (18): 9793-9804
- **Aminoglycoside ribosome interactions reveal novel conformational states at ambient temperature.** *Nucleic acids research*
O'Sullivan, M. E., Poitevin, F., Sierra, R. G., Gati, C., Dao, E. H., Rao, Y., Aksit, F., Ciftci, H., Corsepilus, N., Greenhouse, R., Hayes, B., Hunter, M. S., Liang, et al
2018
- **Molecular therapy for genetic and degenerative vestibular disorders.** *Current opinion in otolaryngology & head and neck surgery*

- Sayyid, Z. N., Kim, G. S., Cheng, A. G.
2018
- **Sox2 haploinsufficiency primes regeneration and Wnt responsiveness in the mouse cochlea** *JOURNAL OF CLINICAL INVESTIGATION*
Atkinson, P. J., Dong, Y., Gu, S., Liu, W., Najarro, E., Udagawa, T., Cheng, A. G.
2018; 128 (4): 1641-56
 - **Mind Your Ears: A New Antidote to Aminoglycoside Toxicity?** *JOURNAL OF MEDICINAL CHEMISTRY*
O'Sullivan, M. E., Cheng, A. G.
2018; 61 (1): 81-83
 - **Basilar Membrane Vibration After Targeted Removal of the Third Row of OHCs and Deiters Cells**
Xia, A., Udagawa, T., Raphael, P. D., Cheng, A. G., Steele, C. R., Applegate, B. E., Oghalai, J. S., Bergevin, C., Puria, S.
AMER INST PHYSICS.2018
 - **Towards the Prevention of Aminoglycoside-Related Hearing Loss.** *Frontiers in cellular neuroscience*
O'Sullivan, M. E., Perez, A., Lin, R., Sajjadi, A., Ricci, A. J., Cheng, A. G.
2017; 11: 325
 - **Towards the Prevention of Aminoglycoside-Related Hearing Loss** *Frontiers in Cellular Neuroscience*
O'Sullivan, M. E., Perez, A., Lin, R., Ricci, A. J., Cheng, A. G.
2017; 11: 325
 - **Profiling Specific Inner Ear Cell Types Using Cell Sorting Techniques.** *Methods in molecular biology (Clifton, N.J.)*
Jan, T. A., Jansson, L., Atkinson, P. J., Wang, T., Cheng, A. G.
2016; 1427: 431-445
 - **Intraoperative acupuncture for posttonsillectomy pain: A randomized, double-blind, placebo-controlled trial** *LARYNGOSCOPE*
Tsao, G. J., Messner, A. H., Seybold, J., Sayyid, Z. N., Cheng, A. G., Golianu, B.
2015; 125 (8): 1972-1978
 - **Sensory hair cell development and regeneration: similarities and differences** *DEVELOPMENT*
Atkinson, P. J., Najarro, E. H., Sayyid, Z. N., Cheng, A. G.
2015; 142 (9): 1561-1571
 - **Intraoperative acupuncture for posttonsillectomy pain: A randomized, double-blind, placebo-controlled trial.** *The Laryngoscope*
Tsao, G. J., Messner, A. H., Seybold, J., Sayyid, Z. N., Cheng, A. G., Golianu, B.
2015
 - **Making sense of Wnt signaling-linking hair cell regeneration to development** *FRONTIERS IN CELLULAR NEUROSCIENCE*
Jansson, L., Kim, G. S., Cheng, A. G.
2015; 9
 - **Protein-engineered hydrogel encapsulation for 3-d culture of murine cochlea.** *Otology & neurotology*
Chang, D. T., Chai, R., DiMarco, R., Heilshorn, S. C., Cheng, A. G.
2015; 36 (3): 531-538
 - **Designer aminoglycosides prevent cochlear hair cell loss and hearing loss.** *journal of clinical investigation*
Huth, M. E., Han, K., Sotoudeh, K., Hsieh, Y., Effertz, T., Vu, A. A., Verhoeven, S., Hsieh, M. H., Greenhouse, R., Cheng, A. G., Ricci, A. J.
2015; 125 (2): 583-592
 - **Lgr5+ cells regenerate hair cells via proliferation and direct transdifferentiation in damaged neonatal mouse utricle.** *Nature communications*
Wang, T., Chai, R., Kim, G. S., Pham, N., Jansson, L., Nguyen, D., Kuo, B., May, L. A., Zuo, J., Cunningham, L. L., Cheng, A. G.
2015; 6: 6613-?
 - **Spontaneous hair cell regeneration in the neonatal mouse cochlea in vivo (vol 141, pg 816, 2014)** *DEVELOPMENT*
Cox, B. C., Chai, R., Lenoir, A., Liu, Z., Zhang, L., Duc-Huy Nguyen, Chalasani, K., Steigelman, K. A., Fang, J., Rubel, E. W., Cheng, A. G., Zuo, J.
2014; 141 (7): 1599
 - **Spontaneous hair cell regeneration in the neonatal mouse cochlea in vivo** *DEVELOPMENT*
Cox, B. C., Chai, R., Lenoir, A., Liu, Z., Zhang, L., Nguyen, D., Chalasani, K., Steigelman, K. A., Fang, J., Cheng, A. G., Zuo, J.

2014; 141 (4): 816-829

- **Transient, afferent input-dependent, postnatal niche for neural progenitor cells in the cochlear nucleus (vol 110, pg 14456, 2013) PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA**
Volkenstein, S., Oshima, K., Sinkkonen, S. T., Corrales, C., Most, S. P., Chai, R., Jan, T. A., van Amerongen, R., Cheng, A. G., Heller, S.
2013; 110 (42): 17160
- **Transient, afferent input-dependent, postnatal niche for neural progenitor cells in the cochlear nucleus. Proceedings of the National Academy of Sciences of the United States of America**
Volkenstein, S., Oshima, K., Sinkkonen, S. T., Corrales, C. E., Most, S. P., Chai, R., Jan, T. A., Cheng, A. G., Heller, S.
2013; 110 (35): 14456-14461
- **Tympanic border cells are Wnt-responsive and can act as progenitors for postnatal mouse cochlear cells DEVELOPMENT**
Jan, T. A., Chai, R., Sayyid, Z. N., van Amerongen, R., Xia, A., Wang, T., Sinkkonen, S. T., Zeng, Y. A., Levin, J. R., Heller, S., Nusse, R., Cheng, A. G.
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- **Integrity and Regeneration of Mechanotransduction Machinery Regulate Aminoglycoside Entry and Sensory Cell Death PLOS ONE**
Vu, A. A., Nadaraja, G. S., Huth, M. E., Luk, L., Kim, J., Chai, R., Ricci, A. J., Cheng, A. G.
2013; 8 (1)
- **A simple method for purification of vestibular hair cells and non-sensory cells, and application for proteomic analysis. PloS one**
Herget, M., Scheibinger, M., Guo, Z., Jan, T. A., Adams, C. M., Cheng, A. G., Heller, S.
2013; 8 (6)
- **Wnt signaling induces proliferation of sensory precursors in the postnatal mouse cochlea PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA**
Chai, R., Kuo, B., Wang, T., Liaw, E. J., Xia, A., Jan, T. A., Liu, Z., Taketo, M. M., Oghalai, J. S., Nusse, R., Zuo, J., Cheng, A. G.
2012; 109 (21): 8167-8172
- **Isolating LacZ-expressing Cells from Mouse Inner Ear Tissues using Flow Cytometry JOVE-JOURNAL OF VISUALIZED EXPERIMENTS**
Jan, T. A., Chai, R., Sayyid, Z. N., Cheng, A. G.
2011
- **Dynamic Expression of Lgr5, a Wnt Target Gene, in the Developing and Mature Mouse Cochlea JARO-JOURNAL OF THE ASSOCIATION FOR RESEARCH IN OTOLARYNGOLOGY**
Chai, R., Xia, A., Wang, T., Jan, T. A., Hayashi, T., Bermingham-McDonogh, O., Cheng, A. G.
2011; 12 (4): 455-469
- **Functional Hair Cell Mechanotransducer Channels Are Required for Aminoglycoside Ototoxicity PLOS ONE**
Alharazneh, A., Luk, L., Huth, M., Monfared, A., Steyger, P. S., Cheng, A. G., Ricci, A. J.
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- **Intrinsic regenerative potential of murine cochlear supporting cells Scientific Reports**
Sinkkonen ST, Chai R, Jan, T, Hartman B, Laske R, Gahlen F, Sinkkonen W, Cheng AG, Oshima K, Heller
2011; 1 (26): DOI:10.1038/srep0002
- **Mechanisms of aminoglycoside ototoxicity and targets of hair cell protection. International journal of otolaryngology**
Huth, M. E., Ricci, A. J., Cheng, A. G.
2011; 2011: 937861-?
- **Decompression of the Orbital Apex An Alternate Approach to Surgical Excision for Radiographically Benign Orbital Apex Tumors ARCHIVES OF OTOLARYNGOLOGY-HEAD & NECK SURGERY**
Almond, M. C., Cheng, A. G., Schiedler, V., Sires, B. S., Most, S. P., Jian-Amadi, A.
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- **Sensorineural hearing loss in patients with cystic fibrosis OTOLARYNGOLOGY-HEAD AND NECK SURGERY**
Cheng, A. G., Johnston, P. R., Luz, J., Uluer, A., Fligor, B., Licameli, G. R., Kenna, M. A., Jones, D. T.
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- **Airway management in Nager Syndrome LARYNGOSCOPE**
Ho, A. S., Aleshi, P., Cohen, S. E., Koltai, P. J., Cheng, A. G.

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Ho, A. S., Aleshi, P., Cohen, S. E., Koltai, P. J., Cheng, A. G.
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- **Melanoacanthoma of the external auditory canal: a case report and review of the literature** *AMERICAN JOURNAL OF OTOLARYNGOLOGY*
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2007; 28 (6): 433-435
- **Cerebrospinal fluid leak in the neck: A rare complication of glomus vagale excision** *OTOLARYNGOLOGY-HEAD AND NECK SURGERY*
Cheng, A. G., Maronian, N. C., Futran, N. D.
2006; 134 (2): 334-335
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Cheng, A. G., Cunningham, L. L., Rubel, E. W.
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- **Auramine orange stain with fluorescence microscopy is a rapid and sensitive technique for the detection of cervical lymphadenitis due to mycobacterial infection using fine needle aspiration cytology: a case series** *OTOLARYNGOLOGY-HEAD AND NECK SURGERY*
Cheng, A. G., Chang, A., Farwell, D. G., Agoff, S. N.
2005; 133 (3): 381-385
- **Neomycin-induced hair cell death and rapid regeneration in the lateral line of zebrafish (*Danio rerio*)** *JARO-JOURNAL OF THE ASSOCIATION FOR RESEARCH IN OTOLARYNGOLOGY*
Harris, J. A., Cheng, A. G., Cunningham, L. L., MacDonald, G., Raible, D. W., Rubel, E. W.
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- **Hair cell death in the avian basilar papilla: Characterization of the in vitro model and caspase activation** *JARO-JOURNAL OF THE ASSOCIATION FOR RESEARCH IN OTOLARYNGOLOGY*
Cheng, A. G., Cunningham, L. L., Rubel, E. W.
2003; 4 (1): 91-105
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Cunningham, L. L., Cheng, A. G., Rubel, E. W.
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Huang, T., Cheng, A. G., Stupak, H., Liu, W., Kim, A., Staecker, H., LEFEBVRE, P. P., Malgrange, B., Kopke, R., Moonen, G., Van de Water, T. R.
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