

MAAYAN GRUBER, M.D.

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EDUCATION AND PROFESSIONAL STATUS

Post Medical School

Head of Pediatric Otolaryngology Unit, Otolaryngology Head & Neck Surgery Galilee Medical Center, Nahariya, Israel	
Senior Clinical Researcher, Azrieli Faculty of Medicine, Bar-Ilan university	2018-now
Senior Surgeon/Physician, Otolaryngology Head & Neck Surgery Galilee Medical Center, Nahariya, Israel	2016-now
Clinical and Research Fellow, Pediatric Otolaryngology, July 2015-July 2016 Starship Children's Hospital, Auckland, New Zealand	2015-2016
Clinical Fellow, Pediatric Otolaryngology, July 2014-July 2015 The Royal Children's Hospital, Melbourne, Australia	2014-2015
Senior Physician, Full Time Position- Otolaryngology Head & Neck Surgery Carmel Medical Center. Haifa, Israel	2013 - 2014
Training Program- Otolaryngology Head & Neck Surgery Carmel Medical Center. Haifa, Israel	2007 - 2012
Rotating Internship Rambam Medical Center, Haifa, Israel	2006
M.D. Doctor of Medicine, Cum Laude, The Technion , Haifa, Israel	2002 - 2006
B.A. in Medical Sciences, Cum Laude, The Technion, Haifa, Israel	2000 - 2002

HONORS, AWARDS, RESEARCH GRANTS

- **Best research prize: “The use of steroid-eluting endo-tracheal tubes for long term intubation”.** The annual international Israeli Otolaryngology society conference. 2021, Eilat, Israel. 10000 ILS.
- **Best research prize: “The effect of an interventional program on medication errors in pediatric otolaryngology”.** The annual international Israeli Otolaryngology society conference. 2020, Eilat, Israel. 10000ILS
- **Best research prize: “Local delivery of mometasone foruate using drug-eluting tubes”.** The annual international Israeli Otolaryngology society conference. 2018, Eilat, Israel. 10000 ILS.
- **Best Lecturer Prize, 2018-2021**

Azrieli Faculty of Medicine – Bar-Ilan University, Safed, Israel

- **Melbourne Jewish Community fellowship Scholarship, 10000AUS, 2015**
- **Best Lecturer Prize, 2014**

Faculty of Medicine – Technion, Haifa, Israel

-Excellence Program: “Stars Program, Fellowship Grant”, 300000 ILS

Clalit Health Services, Israel, 2011

-Excellence Program: “Stars Program, Research Grant”, 60000 ILS

Clalit Health Services, Israel , 2011

-Oncology Scholarship Program for Med Students, 10000ILS,

Israeli Cancer Association, 2005

PUBLICATIONS

1. Steroid-eluting endotracheal tubes reduce upper airway morbidity following long-term intubation. Jahshan F, Abu Ammar A, Sela E, Zussman E, Harel A, **Gruber M**. *Accepted, ACS Applied Bio-Materials Journal, 2021*
2. The pediatric bleeding questionnaire may unmask potential bleeding risk in children having tonsil surgery. Levi E, **Gruber M**, *Under review, The Laryngoscope*
3. Intubated ventilation inflicts flow-induced bio-trauma in in-vitro neonatal upper airway models. Nof E, **Gruber M**, Sznitman J. *Under review, 2021*
4. Pediatric Obstructive Sleep Apnea: Its Impact on Parental Quality of Life Before and After Treatment. Y Heskiav, N Eisenbach, **M Gruber**, O Ronen. *Under review, Sleep and Breathing Journal, 2021*
5. Paediatric Otitis externa: characteristics and predictors for hospital admission. **Gruber M**, Ronen O., *International Journal of pediatric otorhinolaryngology, 2021;140:110534*
6. Auditory performance in recovered COVID-SARS patients. Dror A, **Gruber M**, Sela E. *Ahead of print for publication, Oto Neuro, 2020*
7. The effect of an interventional program on the occurrence of medication errors in children. Eisenbach N, **Gruber M**. *International Journal of pediatric otorhinolaryngology, 2020; 138:110373*
8. Translation and cultural adaptation of the Hebrew version of the Pediatric Sleep Questionnaire: a prospective, non-randomized control trial. Shteinberg YH, Eisenbach N, Sela E, **Gruber M**, Ronen O. *Sleep Breath. 2020 May 12.*
9. Developing biodegradable nanoparticles loaded with mometasone furoate for potential nasal drug delivery.
Far, J; Abdel-Haq, M ; **Gruber, M**; Abu Ammar, A; *ACS Omega. 2020; 5(13):7432-9*
10. A Novel Rat Model for Assessment of Tracheal Mucosal Damage Following One-Week of Intubation. Jahshan F, Ertracht O, Eisenbach N, Daoud A , Sela E , **Gruber M**. *International Journal of pediatric otorhinolaryngology, 2019 Oct 24;128:109738*
11. Occult malignancy in pediatric tonsil and adenoid surgeries – a national survey. Lifshitz G, **Gruber M**, Ronen O. *International Journal of pediatric otorhinolaryngology; 2019; 117:171-174.*
12. A novel rat animal model for the study of laryngo-tracheal injury. Jahshan F, **Gruber M**. *International Journal of pediatric otorhinolaryngology, 2018; 113:4–10.*
13. Local delivery of mometasone furoate using endotracheal tubes. Abu Amar A, **Gruber M**, Zussman E. *Accepted for publication. Journal of Controlled Release. 2018;272:54-61*
14. Aspirated bronchial foreign body complicated with pneumo-mediastinum and pneumothorax. Jahshan F, **Gruber M**. *Accepted for publication. ENT Journal.*

15. The spectrum of ophthalmic pathologies amongst children with congenital hearing loss.

Gruber M, Mahadevan M, Brown C, Neeff M. *Isr Med Assoc J*. 2019 Sep;21(9):607-611.

16. Recurrent post tonsillectomy bleeds: presentation and characteristics in the paediatric population.

Van Der Meer G, **Gruber M**, Mahadevan M. *Int J Pediatr Otorhinolaryngology*, 2017 Apr; 98:68-70.

17. The Effect of Soft Tissue Infections on Device Performance in Adult Cochlear Implant Recipients.

McAllister K, **Gruber M**, Neeff M. *Otology Neurotology Journal*, Mar 2017.

18. Is Nasal Endoscopy of Diagnostic Value in Chronic Rhinosinusitis without Nasal Polyps?

Cohen-Kerem R, **Gruber M**. *Ear Nose Throat J*. 2019 Sep 23:145561319864578.

19. Retrotracheal Extraskeletal Ewing's Sarcoma: Case Report and Discussion on Airway Management .

Graeme Van Der Meer, Hannah Linkhorn, **Maayan Gruber**, Murali Mahadevan, Colin Barber . *Turk Arch Otorhinolaryngol* 2017; 55: 44-7

20. Saccular cyst and airway compromise in a new-born with ciliopathy.

Gruber M, Salkeld L. *Accepted, in preparation, Ear, Nose and Throat Journal*, 2017

21. Concomitant imaging and genetic findings in children with unilateral sensorineural hearing loss.

Gruber M, van der Meer G, Neeff M. *Journal of Otology and Laryngology*, 2017, Aug; 131(8):688-95

22. The bacterial species associated with aspirated foreign bodies in children.

Gruber M, van der Meer G, Neeff M. *Auris Nasus Larynx Journal*, 2017

23. Castleman's Disease: Unusually young presentation resulting in delayed diagnosis of a neck mass.

Linkhorn H, Van Der Meer G, **Gruber M**, Mahadevan M. *Int J Pediatr Otorhinolaryngology*, 2016 Jul;86:90-2.

24. Diagnosis and Classification of 17 Diseases from 1404 Subjects via Pattern Analysis of Exhaled Molecules.

Nakhle M, Amal H, **Gruber M**, Haick H. *ACS Nano Journal*, 2017 Jan; 11(1):112-125.

25. Long-standing inhaled foreign bodies in children: Characteristics and outcome. Martin A, Van Der meer G, Mahadevan M, Barber C, **Gruber M**. *Int J Pediatr Otorhinolaryngology*, 2016 Nov; 90:49-53.
26. The yield of multi-gene testing in the management of paediatric unilateral sensorineural hearing loss. **Gruber M**, Neeff M, Brown C, Mahadevan M. 2016 Sep;37(8):1066-70, *Otology/Neurotology Journal*.
27. Safety of pediatric day-stay tonsillectomies: experience of a single tertiary-level pediatric hospital. Mahadevan M, Van Der Meer G, **Gruber M**, Barber C. *Laryngoscope*. 2016 Apr 27.
28. Outcomes of BOTOX injection to the submandibular glands to treat drooling in children with neurological disorders at a single tertiary-level institution. Mahadevan M, **Gruber M**, Van Der Meer G. 2016 Sep; 88:142-5., *Int J Pediatr Otorhinolaryngology*
29. Non-tuberculous mycobacterial head and neck infections in children: Analysis of results and complications for various treatment modalities. Mahadevan M, Neeff M, Baguley C, **Gruber M**. *Int J Pediatr Otorhinolaryngology*. 2016, 82:102-106.
30. Safety of Paediatric day-stay laryngeal surgery for recurrent respiratory papillomatosis. **Gruber M**, Mills N, Blair D, Van Der Meer G, Mahadevan M. *Int J Pediatr Otorhinolaryngology*. 2016, 82:116-119.
31. Heparanase enhances tumor growth and chemoresistance by promoting autophagy. Shteingauz A, Boyango I, Naroditsky I, **Gruber M**, Doweck I, Ilan N, Vlodayski I. *Cancer Research*. 2015;75(18):3946-57.
32. Analysis of Exhaled Breath for Diagnosing Head and Neck Squamous Cell Carcinoma: a Feasibility Study. **Gruber M**, Hakim M, Tisch U, Doweck I, Haick H. *Br J Cancer*. 2014; 111:790-798
33. The Clinical Utility of a Polymerase Chain Reaction Assay in Culture-Negative Necrotizing Otitis Externa. **Gruber M**, Doweck I, Cohen-Kerem R. *Oto Neur*. 2015, 36(4):733-6.
34. Clinical Approach to Pediatric Serous Otitis Media. **Gruber M**, Honigman T, Cohen-Kerem R. *Harefuah* 2015, 154(6):377-81.
35. The Role of Surgery in Necrotizing Otitis Externa.

- Gruber M**, Doweck I, Cohen-Kerem R. *Ear, Nose and Throat Journal*, 2017; 96(1):E16-E21.
36. Use of Complementary Alternative Medicine in Pediatric Otolaryngology Patients: An Evolving Trend.
Gruber M, Ben-Arie O, Cohen-Kerem R. *Int J Pediatr Otorhinolaryngol*. 2014; 78:248-52
37. Allergic Fungal Sinusitis and Eosinophilic Mucinous Rhino Sinusitis: Diagnostic Criteria.
Uri N, Ronen O, Parpara O, **Gruber M**. *J Oto Laryn*. 2013; 13:1-5.
38. Vertigo in Children and adolescents: characteristics and outcome.
Gruber M, Cohen-Kerem R, Kaminer M, Shupak A. *Scientific World Journal*. 2012; 2012:109624.
39. Longer Survival by Enzyme Replacement Therapy Unmasks the Underrecognition of Otoneurological Involvement in Infantile Pompe Disease. Mandel H, **Gruber M**, Goldsher D, Chistyakov A, Kaplan B, Zaaroor M, Hafner H. *Clinical Therapeutics*. 2007; Vol 29, supp. C: 217-218.

INVITED TALKS AND PLENARY

1. Pediatric Otolaryngology Panel Member: Difficult Surgical Airway Cases, the annual Israeli ENT society conference, Eilat, 2020
2. HOPE: Humanitarian Outreach Pediatric Endeavour. **Gruber M**. European Otolaryngology Society Conference, Stockholm, 2019
3. Pediatric Otolaryngology Panel Member: CME course for Otolaryngology Trainees, Tel-Aviv University, 2019
4. Pediatric FEES: How I do it. **Gruber M**. Israeli Pediatric Otolaryngology meeting, Shamir Medical Center, Tel-Aviv, Israel, 2019
5. Pediatric aspirated foreign bodies. **Gruber M**. **Course director** at the annual Israeli ENT society conference, Eilat, 2019
6. Pediatric foreign body aspiration: Course instructor for ENT trainees. **Gruber M**. Tel Aviv Medical Center. 2019
7. Day-stay tonsillectomies – two decades of experience. **Gruber M**. Israeli Pediatric Otolaryngology meeting, Meir Medical Center, 2017

8. Newborn Hearing Screening – what’s new? **Gruber M.** Northern Genetics in Hearing Forum Meeting, 2017
9. Pediatric FEES guidelines. **Gruber M.** National FEES conference, Tel Aviv Medical Center, 2017
10. Management and outcome of long-standing paediatric inhaled foreign bodies. Martin A, **Gruber M.** Annual New Zealand Otolaryngology conference, Nelson, NZ, 2016.
11. Safety of pediatric day-stay tonsillectomies: experience of a single tertiary-level pediatric hospital. Mahadevan M, Van Der Meer G, **Gruber M.** European Society of Paediatric Otolaryngology, Lisbon, Portugal, 2016.
12. Diagnosis of Head and Neck Cancer from Exhaled Breath Using a Nano-scale Artificial Nose. The Starship Children’s Hospital Research Day, Auckland, New Zealand, 2015. **Speaker : Gruber M**
13. The Clinical Utility of a Polymerase Chain Reaction Assay in Culture-Negative Necrotizing Otitis Externa. Roitman A, **Gruber M.** Annual Israeli Otoneurology Conference, 2014
14. Diagnosis of Head and Neck Cancer from Exhaled Breath Using a Nano-scale Artificial Nose. The Royal Children’s Hospital Research Day, Melbourne, Australia, 2015. **Speaker : Gruber M.**
15. Cognitive and Emotional Development amongst Children suffering Serous Otitis Media. Northern Israel Otolaryngology Meeting, Haifa, Israel, 2014. **Speaker : Gruber M.**
16. Diagnosis of Head and Neck Cancer from Exhaled Breath Using a Nano-scale Artificial Nose. The Annual Meeting of the Israeli Society of Otorhinolaryngology, Head & Neck Surgery, Eilat, Israel, 2014. **Speaker : Gruber M.**
17. The Role of Surgery in Necrotizing Otitis Externa. The Annual Meeting of the Israeli Society of Otorhinolaryngology, Head & Neck Surgery, Eilat, Israel, 2014. **Speaker : Gruber M.**
18. Prospective Study: Effectiveness of Maxillary Sinus Irrigation in Conjunction with Systemic Antibiotic Therapy versus Systemic Antibiotic Therapy Alone in the Management of Chronic Rhinosinusitis. Marshak T, **Gruber M,** Cohen-Kerem R, Uri N. The Annual Meeting of the Israeli Society of Otorhinolaryngology, Head & Neck Surgery, Eilat, Israel, 2014.
19. Complementary Alternative Medicine and the Pediatric Otolaryngology Patient. The 11th International Congress of the European Society of Pediatric Otolaryngology in Amsterdam 2012. **Gruber M,** Cohen-Kerem R.
20. Use of Complementary Alternative Medicine in Pediatric Otolaryngology Patients. The Annual Meeting of the Israeli Society of Otorhinolaryngology, Head & Neck Surgery, Eilat, Israel, 2012. **Gruber M,** Cohen-Kerem R.

21. Nasopharyngeal Amyloidosis: an Unusual Cause for Nasal Obstruction. Annual Meeting of the Israeli Society of Otorhinolaryngology, Head & Neck Surgery, Eilat, Israel, 2011. **Gruber M**, Antebi I, Saar-Elmalach O, Cohen-Kerem R.
22. Characteristics and Follow up of 37 pediatric vertigo patients. The Israeli Otoneurological Society Annual Conference, 2010. **Gruber M**, Cohen-Kerem R, Kaminer M, Shupak A. **Speaker : Gruber M**.
23. Vertigo in Children and Adolescents. The American Society of Pediatric Otolaryngology Annual conference, Las Vegas, 2010. **Gruber M**, Cohen-Kerem R, Kaminer M, Shupak A.
24. A Cross Sectional Retrospective Study of Vertigo in Children and Adolescents. Annual Meeting of the Israeli Society of Otorhinolaryngology, Head & Neck Surgery, Eilat, Israel, 2009. **Gruber M**, Cohen-Kerem R, Kaminer M, Shupak A. **Speaker : Gruber M**.
25. Otoneurological Involvement in Infantile Pompe Disease. Annual Meeting of the Israeli Society of Otorhinolaryngology, Head & Neck Surgery, Eilat, Israel, 2008. **Gruber M**, Mandel H, Goldsher D, Chistyakov A, Kaplan B, Zaaroor M, Hafner H.
26. Longer Survival by Enzyme Replacement Therapy Unmasks the Underrecognition of Otoneurological Involvement in Infantile Pompe Disease. International Congress for Inborn Errors of Metabolism, Vienna, 2007. **Gruber M**, Mandel H, Goldsher D, Chistyakov A, Kaplan B, Zaaroor M, Hafner H. **Speaker : Mandel H**.

PEER REVIEW

- **Editor**, Otolaryngology topic, Children Journal, MDPI Publishing
- **Reviewer** for the Journal: Open BMJ, Elsevier Publishing
- **Reviewer** for the Journal: The Laryngoscope, Wiley Publisher
- **Reviewer** for the Journal: Otology and Neurotology, Lippincott Williams & Wilkins
- **Reviewer** for the Journal: International J of Pediatric Otorhinolaryngology, Elsevier Publishing
- **Reviewer** for the Journal: Diagnostic Microbiology and Infectious Disease, Elsevier Publishing
- **Reviewer** for the Journal: Family Medicine and Medical Science Research

RESEARCH – PHARMA COMPANY COLLABORATIONS

- EXE844b-C002: Safety and efficacy of EXE844 otic suspension in the treatment of otitis media at time of tympanostomy tube insertion. Alcon Laboratories.
- International Multi-institutional Clinical Trial. PI at the Auckland, NZ Site.

PROFESSIONAL SOCIETIES

Israeli Medical Association; Israeli ENT Society; Australian Medical Association; Medical Council of New Zealand;