



**INFORME DE BÚSQUEDA SISTEMÁTICA DE EVIDENCIA DE LOS EFECTOS
DESEABLES E INDESEABLES**

**Guía de Práctica Clínica Hipoacusia en recién nacidos, niños y
niñas menores de 4 años - 2017**

ÍNDICE

TABLA RESUMEN	2
ESTRATEGIA DE BÚSQUEDA	3
CRITERIOS DE INCLUSIÓN	3
RECOLECCIÓN, ANÁLISIS Y SÍNTESIS DE DATOS	4
Selección de las revisiones	4
Mapeo de la evidencia	4
Actualización – “Living”	4
Anexo 1. Estrategias de búsqueda	5
Anexo 2. Diagrama de flujo PRISMA	7
Anexo 3. Referencias seleccionadas	8

TABLA RESUMEN

Problema de salud	Hipoacusia Neurosensorial Bilateral del prematuro Tratamiento de Hipoacusia moderada en personas menores de 4 años
ICD10	H90
Fecha de entrega	29/11/2017
Investigador responsable	Gabriel Rada Giacaman
Número de revisiones sistemáticas	221
Número de preguntas	109
L-OVE	Hearing loss
L-OVE URL	https://love.epistemonikos.org/#/diseases/5a1331298410adcacf7d4d9c/about

ESTRATEGIA DE BÚSQUEDA

Se realizaron búsquedas en Epistemonikos, una base de datos exhaustiva de revisiones sistemáticas relevantes para la toma de decisiones en salud. No se aplican restricciones en base al idioma o estado de publicación. La búsqueda de evidencia fue realizada en las siguientes bases de datos¹ con las estrategias descritas en el Anexo 1.

1. Cochrane database of systematic reviews (CDSR)
2. Database of Abstracts of Reviews of Effectiveness (DARE)
3. HTA Database
4. PubMed
5. LILACS
6. CINAHL.
7. PsychINFO.
8. EMBASE.
9. EPPI-Centre Evidence Library
10. 3ie Systematic Reviews and Policy Briefs Campbell Library
11. Clinical Evidence.
12. SUPPORT Summaries
13. WHO Institutional Repository for Information Sharing
14. NICE public health guidelines and systematic reviews
15. ACP Journal Club.
16. Evidencias en Pediatría
17. The JBI Database of Systematic Reviews and Implementation Reports

CRITERIOS DE INCLUSIÓN

Consideramos todas las revisiones sistemáticas que están sintetizando estudios primarios (tanto experimentales como observacionales) de acuerdo a la definición empleada por la Colaboración Cochrane y la declaración PRISMA².

Una revisión elegible debe cumplir con los siguientes criterios operacionales:

1. Reporta una búsqueda en al menos una base de datos electrónica.
2. Reporta al menos uno de los siguientes criterios inclusión de los estudios:
 - **Tipo de participantes:** Se incluyen todas las revisiones sistemáticas que resuman estudios que respondan la pregunta acerca de intervenciones para el alivio del dolor por cáncer avanzado y cuidados paliativos en humanos.

¹ La actualización se realiza de manera semanal. Se encuentra disponible en la plataforma digital un sistema de alerta que permite informar a través de correo electrónico la publicación de nuevos estudios que dan respuesta a las preguntas definidas, de manera de mantener continuamente actualizada la evidencia.

² “Una revisión sistemática intenta recopilar toda la evidencia empírica para responder a una pregunta de investigación específica, que cumple con criterios previamente definidos. Utiliza métodos explícitos y sistemáticos, que se eligen con miras a minimizar el sesgo, de manera de entregar hallazgos confiables que permitan sacar conclusiones y tomar decisiones”.

- **Tipo de desenlaces:** Se incluyen revisiones que presentan una síntesis (cuantitativa o cualitativa) de al menos un desenlace importante para el paciente u otra información relevante para tomar decisiones poblacionales o individuales acerca de intervenciones para el alivio del dolor por cáncer avanzado y cuidados paliativos en humanos.

RECOLECCIÓN, ANÁLISIS Y SÍNTESIS DE DATOS

SELECCIÓN DE LAS REVISIONES

Al menos dos revisores, de manera independiente, realizaron el cribado de los títulos y resúmenes para identificar los artículos relevantes. El texto completo de las revisiones potencialmente elegibles fue recuperado y evaluado, de manera independiente, para su inclusión final. Un tercer investigador resolvió cualquier discrepancia que pudiera haberse provocado entre los distintos revisores.

MAPEO DE LA EVIDENCIA

Con el objetivo de generar un listado exhaustivo de todas las posibles preguntas relacionadas con el tema del L-OVE: Hearing loss³, se realiza la agrupación de las revisiones resultantes en formato PICO, es decir: población, intervención, comparación y desenlace (*outcome*) utilizamos las siguientes fuentes:

1. Guías y documentos
2. Criterios de inclusión de las revisiones sistemáticas identificadas
3. Consulta con expertos
4. Retroalimentación de los usuarios

Como resultado final la plataforma incluye toda la evidencia disponible en revisiones sistemáticas y sus estudios primarios incluidos, segregada por nodos de evidencia que representan cada una de las preguntas priorizadas para actualización de la guía (Ver “Diagrama de flujo PRISMA” en Anexo 2 y “Referencia Seleccionada” en Anexo 3).

ACTUALIZACIÓN – “LIVING”

Todas las búsquedas a través de esta plataforma se mantienen continuamente actualizada gracias a la tecnología implementada en el buscador de Epistemonikos y sus distintos colaboradores. Por lo cual, tanto la cantidad de revisiones, preguntas, entre otros datos cambian continuamente. Los datos presentados en este informe son los correspondientes a la fecha de entrega.

³Ver resultados de la búsqueda en:

<https://love.epistemonikos.org/#/diseases/5a1331298410adcacf7d4d9c/about>

ANEXO 1. ESTRATEGIAS DE BÚSQUEDA

Cochrane Library - Cochrane database of systematic reviews (CDSR)

<http://www.thecochanelibrary.com>

(hear* AND loss), in Title, Abstract, Keywords: Cochrane Reviews (Reviews NOT protocols)

Medline/PubMed - US National Library of Medicine

<http://www.ncbi.nlm.nih.gov/pubmed/>

(hear* AND loss) AND (MEDLINE[Title/Abstract] OR (systematic[Title/Abstract] AND review[Title/Abstract])) OR meta analysis[Publication Type])

EMBASE (Excerpta Medica dataBASE)

<http://www.embase.com>

Frequency of search: weekly

(hear* AND loss) AND meta-analysis.tw. OR systematic review.tw

CINAHL (Cumulative Index to Nursing and Allied Health Literature)

<https://www.ebscohost.com/nursing/products/cinahl-databases/the-cinahl-database>

(hear* AND loss) AND ((TI meta analys* or AB meta analys*) or (TI systematic review or AB systematic review))

PsycINFO

<http://www.apa.org/pubs/databases/psycinfo>

(hear* AND loss) AND (meta-analysis OR search*)

LILACS (Literatura Latinoamericana y del Caribe en Ciencias de la Salud)

<http://lilacs.bvsalud.org/en/>

(hear* AND loss) AND (tw:"revision sistematica" or tw:"revisao sistematica" or tw:"systematic review") or ((MH:"Literatura de Revision como asunto" OR MH:"Metanalisis como asunto" OR PT:Revision OR PT:Metanalisis) and (TW:Metaanal\$ OR TW:"Meta-analysis" OR TW:"Meta-analise" OR TW:"Meta-analisis" OR TI:overview\$ or TW:"estudio sistematico" OR TW:"systematic study" OR TW:"estudo sistematico" OR TI:review OR TI:revisao OR TI:revision))

DARE (Database of Abstracts of Reviews of Effectiveness) - Centre for Reviews and Dissemination, University of York

<http://www.crd.york.ac.uk/CRDWeb/>

(hear* AND loss), in Any field: CRD assessed review (bibliographic)/ CRD assessed review (full abstract)

HTA Database

<http://www.crd.york.ac.uk/CRDWeb/>

(hear* AND loss), in Any field

The Campbell Collaboration Online Library

<https://www.campbellcollaboration.org/library.html>

(hear* AND loss), in Title: Review

JBI Database of Systematic Reviews and Implementation Reports

<http://journals.lww.com/jbisrir/pages>

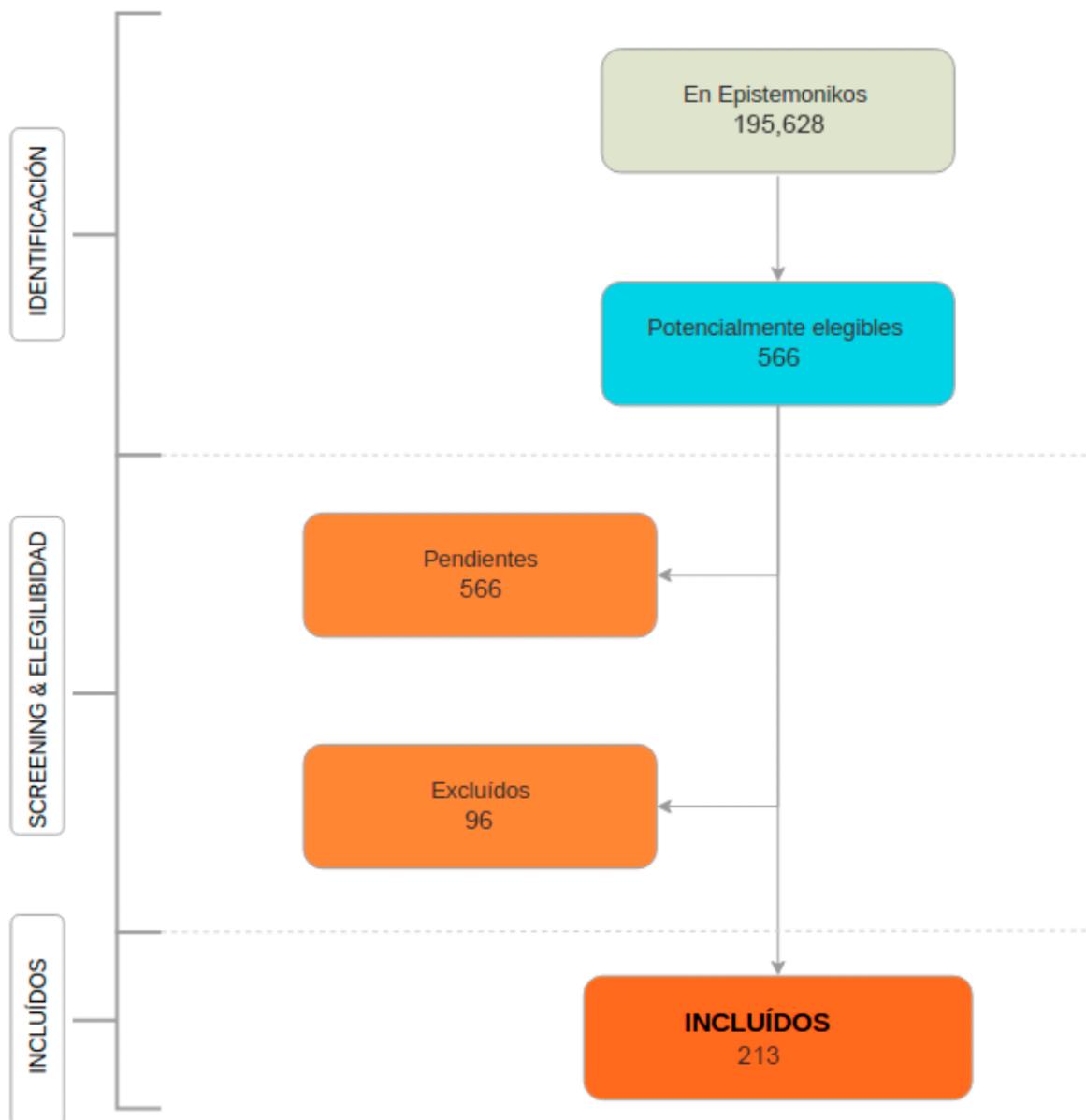
(hear* AND loss) AND (review OR meta*), in All fields

EPPI-Centre Evidence Library

<http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=56>

(hear* AND loss) All records in chronological list (<http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=62>)

ANEXO 2. DIAGRAMA DE FLUJO PRISMA



ANEXO 3. REFERENCIAS SELECCIONADAS

1. Derek J Hoare, Mark Edmondson-Jones, Magdalena Sereda, Michael A Akeroyd, Deborah Hall. Amplification with hearing aids for patients with tinnitus and co-existing hearing loss. *Cochrane Database of Systematic Reviews*. 2014;1(1):CD010151.
2. Tikka C, Verbeek JH, Kateman E, Morata TC, Dreschler WA, Ferrite S. Interventions to prevent occupational noise-induced hearing loss. *The Cochrane database of systematic reviews*. 2017;7(7):CD006396.
3. Rafael Perera, Paul P Glasziou, Carl J Heneghan, Julie McLellan, Ian Williamson. Autoinflation for hearing loss associated with otitis media with effusion. *Cochrane Database of Systematic Reviews*. 2013;5(5):CD006285.
4. Moreno, G, Salazar, AM, Acebedo, B, Otárola, F. Literature review for protocol development in the diagnosis, surveillance and forensic assessment of occupational hearing loss. *Medwave*. 2014;14(Suppl 1):e5774.
5. Morzaria S, Westerberg BD, Kozak FK. Systematic review of the etiology of bilateral sensorineural hearing loss in children. *International journal of pediatric otorhinolaryngology*. 2004;68(9):1193-8.
6. Cohen JM, Blustein J, Weinstein BE, Dischinger H, Sherman S, Grudzen C, Chodosh J. Studies of Physician-Patient Communication with Older Patients: How Often is Hearing Loss Considered? A Systematic Literature Review. *Journal of the American Geriatrics Society*. 2017;65(8):1642-1649.
7. Spencer CR. The relationship between vestibular aqueduct diameter and sensorineural hearing loss is linear: a review and meta-analysis of large case series. *The Journal of laryngology and otology*. 2012;126(11):1086-90.
8. Swanepoel de W, Hall JW. A systematic review of telehealth applications in audiology. *Telemedicine journal and e-health : the official journal of the American Telemedicine Association*. 2010;16(2):181-200.
9. Asik B, Binar M, Serdar M, Satar B. A meta-analysis of surgical success rates in Congenital stapes fixation and juvenile otosclerosis. *The Laryngoscope*. 2015;126(1):191-8.
10. Bartlett AW, McMullan B, Rawlinson WD, Palasanthiran P. Hearing and neurodevelopmental outcomes for children with asymptomatic congenital cytomegalovirus infection: A systematic review. *Reviews in medical virology*. 2017;27(5).
11. Souza MEDCA, Costa KVTD, Vitorino PA, Bueno NB, Menezes PL. Effect of antioxidant supplementation on the auditory threshold in sensorineural hearing loss: a meta-analysis. *Brazilian journal of otorhinolaryngology*. 2017;
12. van Samkar A, Brouwer MC, Schultsz C, van der Ende A, van de Beek D. Streptococcus suis Meningitis: A Systematic Review and Meta-analysis. *PLoS neglected tropical diseases*. 2015;9(10):e0004191.
13. Vasconcellos AP, Kyle ME, Gilani S, Shin JJ. Personally Modifiable Risk Factors Associated with Pediatric Hearing Loss: A Systematic Review. *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*. 2014;151(1):14-28.
14. Levy JM, Amedee RG. In reference to Systematic review of the evidence for the etiology of adult sudden sensorineural hearing loss. *The Laryngoscope*. 2010;120(11):2347.
15. Ernst A, Todt I, Wagner J. Safety and effectiveness of the Vibrant Soundbridge in treating conductive and mixed hearing loss: A systematic review. *The Laryngoscope*. 2015;126(6):1451-7.
16. Klein K, Nardelli A, Stafinski T. A systematic review of the safety and effectiveness of fully implantable middle ear hearing devices: the carina and esteem systems. *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*. 2012;33(6):916-21.
17. Cardemil F, Aguayo L, Fuente A. [Auditory rehabilitation programmes for adults: what do we know about their effectiveness?]. *Acta otorrinolaringologica espanola*. 2014;65(4):249-57.
18. Ding XY, Cui TT, Feng GD, Gao ZQ. [Intratympanic versus systemic steroid treatment for idiopathic sudden hearing loss: a meta-analysis]. *Zhonghua er bi yan hou tou jing wai ke za zhi = Chinese journal of otorhinolaryngology head and neck surgery*. 2013;48(5):412-6.

19. Agmon M, Lavie L, Doumas M. The Association between Hearing Loss, Postural Control, and Mobility in Older Adults: A Systematic Review. *Journal of the American Academy of Audiology*. 2017;28(6):575-588.
20. Edmond K, Clark A, Korczak VS, Sanderson C, Griffiths UK, Rudan I. Global and regional risk of disabling sequelae from bacterial meningitis: a systematic review and meta-analysis. *The Lancet infectious diseases*. 2010;10(5):317-28.
21. Ensink RJH, Kuper H. Is hearing impairment associated with HIV? A systematic review of data from low and middle-income countries. *Tropical medicine & international health : TM & IH*. 2017;
22. Kyle M.E., Wang J.C., Shin J.J.. Ubiquitous aspirin: A systematic review of its impact on sensorineural hearing loss. *Otolaryngology - Head and Neck Surgery (United States)*. 2014;151(1):P98-P99.
23. Śliwińska-Kowalska M, Zaborowski K. WHO Environmental Noise Guidelines for the European Region: A Systematic Review on Environmental Noise and Permanent Hearing Loss and Tinnitus. *International journal of environmental research and public health*. 2017;14(10).
24. Liu B, Feng WJ, Peng XX, Yang J. [A Meta-analysis of prothrombin G20210A polymorphism and its risk for sudden sensorineural hearing loss]. *Zhonghua er bi yan hou tou jing wai ke za zhi = Chinese journal of otorhinolaryngology head and neck surgery*. 2013;48(5):417-21.
25. Goderis J, De Leenheer E, Smets K, Van Hoecke H, Keymeulen A, Dhooge I. Hearing Loss and Congenital CMV Infection: A Systematic Review. *Pediatrics*. 2014;134(5):972-82.
26. Zaid Awad, Charlie Huins, David D Pothier. Antivirals for idiopathic sudden sensorineural hearing loss. *Cochrane Database of Systematic Reviews*. 2012;8(8):CD006987.
27. Li H., Feng G., Wang H., Feng Y.. Intratympanic steroid therapy as a salvage treatment for sudden sensorineural hearing loss after failure of conventional therapy: A meta-analysis of randomized, controlled trials. *Clinical Therapeutics*. 2015;37(1):178-187.
28. Liu CC, Livingstone D, Yunker WK. The role of bone conduction hearing aids in congenital unilateral hearing loss: A systematic review. *International journal of pediatric otorhinolaryngology*. 2017;94:45-51.
29. McCreery RW, Venediktov RA, Coleman JJ, Leech HM. An Evidence-Based Systematic Review of Directional Microphones and Digital Noise Reduction Hearing Aids in School-Age Children With Hearing Loss. *American journal of audiology*. 2012;21(2):295-312.
30. Dorresteijn PM, Ipenburg NA, Murphy KJ, Smit M, van Vulpen JK, Wegner I, Stegeman I, Grolman W. Rapid Systematic Review of Normal Audiometry Results as a Predictor for Benign Paroxysmal Positional Vertigo. *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*. 2014;150(6):919-924.
31. Pronk M, Kramer SE, Davis AC, Stephens D, Smith PA, Thodi C, Anteunis LJ, Parazzini M, Grandori F. Interventions following hearing screening in adults: a systematic descriptive review. *International journal of audiology*. 2011;50(9):594-609.
32. Manchaiah V, Taylor B, Dockens AL, Tran NR, Lane K, Castle M, Grover V. Applications of direct-to-consumer hearing devices for adults with hearing loss: a review. *Clinical interventions in aging*. 2017;12:859-871.
33. Pobano, Adrián, Arteaga, Carmina, García-Sánchez, Guitermina. Prevalence of early neurodevelopmental disabilities in Mexico: A systematic review. *Arquivos de Neuro-Psiquiatria*. 2009;67(3-A):736-740.
34. Alves, Cresio, Oliveira, Conceição Silva. Hearing loss among patients with Turner's syndrome: literature review. *Braz J Otorhinolaryngol*. 2014;80(3):257-263.
35. Wegner I, Swartz JE, Bance ML, Grolman W. A systematic review of the effect of different crimping techniques in stapes surgery for otosclerosis. *The Laryngoscope*. 2015;126(5):1207-17.
36. Ng JH, Ho RC, Cheong CS, Ng A, Yuen HW, Ngo RY. Intratympanic steroids as a salvage treatment for sudden sensorineural hearing loss? A meta-analysis. *European archives of oto-rhino-laryngology : official journal of the European Federation of Oto-Rhino-Laryngological Societies (EUFOS) : affiliated with the German Society for Oto-Rhino-Laryngology - Head and Neck Surgery*. 2014;272(10):2777-82.
37. Barreto MA, Bahmad F. Phosphodiesterase type 5 inhibitors and sudden sensorineural hearing loss. *Brazilian journal of otorhinolaryngology*. 2014;79(6):727-33.

38. Awad Z., Huins C., Pothier D.D.. Antivirals for idiopathic sudden sensorineural hearing loss. *Otolaryngology - Head and Neck Surgery* (United States). 2014;151(1):P79.
39. Shah P.V., Egan C.R., Devaiah A.K.. Hearing loss and vestibular schwannoma risk: A meta-analysis. *Otolaryngology - Head and Neck Surgery* (United States). 2015;:99-100.
40. van As, Jorrit W, van den Berg, Henk, van Dalen, Elvira C. Platinum-induced hearing loss after treatment for childhood cancer. *Cochrane Database of Systematic Reviews*. 2016;8(8):CD010181.
41. Johnson CE, Danhauer JL, Bennett M, Harrison J, Department of Com- N munication Disorders, 1199 Haley Center, Auburn University, Auburn, AL 36849, johnsl9@auburn.edu. Systematic review of physicians' knowledge of, participation in, and attitudes toward hearing and balance screening in the elderly population. *Seminars in Hearing*. 2009;30(3):193-206.
42. Lin RJ, Krall R, Westerberg BD, Chadha NK, Chau JK. Systematic review and meta-analysis of the risk factors for sudden sensorineural hearing loss in adults. *The Laryngoscope*. 2012;122(3):624-35.
43. Campbell P., Pollock A., Brady M.. Should hearing be screened in the first 30 days after an acute stroke? A systematic review. *International Journal of Stroke*. 2014;9((Campbell P.; Pollock A.; Brady M.) NMAHP Research Unit, Glasgow Caledonian University, Glasgow, United Kingdom):38.
44. Butler CL, Thavaneswaran P, Lee IH. Efficacy of the active middle-ear implant in patients with sensorineural hearing loss. *The Journal of laryngology and otology*. 2013;127 Suppl 2:S8-16.
45. Anne S, Lieu JEC, Cohen MS. Speech and Language Consequences of Unilateral Hearing Loss: A Systematic Review. *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*. 2017;157(4):194599817726326.
46. Araújo, Tiago de Melo, Morettin, Marina, Torres, Kely Cordeiro de Carvalho, Silva, Tatiane Alencar, Laperuta, Erika Biscaro, Bevilacqua, Maria Cecília, Brasil, Hélén Kopper. Auditory rehabilitation and life quality of individual hearing aids users: systematic review. *Distúrb. comun.* 2010;22(1):25-36.
47. Danhauer JL, Johnson CE, Mixon M. Does the evidence support use of the Baha implant system (Baha) in patients with congenital unilateral aural atresia?. *Journal of the American Academy of Audiology*. 2010;21(4):274-86.
48. Kahue CN, Carlson ML, Daugherty JA, Haynes DS, Glasscock ME. Middle ear implants for rehabilitation of sensorineural hearing loss: a systematic review of FDA approved devices. *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*. 2014;35(7):1228-37.
49. van der Veen EL, van Hulst RA, de Ru JA. Hyperbaric Oxygen Therapy in Acute Acoustic Trauma: A Rapid Systematic Review. *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*. 2014;151(1):42-45.
50. Bond M, Mealing S, Anderson R, Elston J, Weiner G, Taylor RS, Hoyle M, Liu Z, Price A, Stein K. The effectiveness and cost-effectiveness of cochlear implants for severe to profound deafness in children and adults: a systematic review and economic model. *Health technology assessment (Winchester, England)*. 2009;13(44):1-330.
51. Colquitt JL, Loveman E, Baguley DM, Mitchell TE, Sheehan PZ, Harris P, Proops DW, Jones J, Clegg AJ, Welch K. Bone-anchored hearing aids for people with bilateral hearing impairment: a systematic review. *Clinical otolaryngology : official journal of ENT-UK ; official journal of Netherlands Society for Oto-Rhino-Laryngology & Cervico-Facial Surgery*. 2011;36(5):419-41.
52. Okubo S, Takahashi M, Saito T, Kai I. Evaluation of universal newborn hearing screening in Japan: an analysis of the literature. [Nihon köshū eisei zasshi] Japanese journal of public health. 2005;52(11):928-33.
53. Kraaijenga VJC, Derkx TC, Stegeman I, Smit AL. The effect of side of implantation on unilateral cochlear implant performance in patients with prelingual and postlingual sensorineural hearing loss - a systematic review. *Clinical otolaryngology : official journal of ENT-UK ; official journal of Netherlands Society for Oto-Rhino-Laryngology & Cervico-Facial Surgery*. 2017;
54. Reid S.M., Modak M., Berkowitz R.G., Reddiough D.S.. A population-based study and systematic review of hearing loss in children with cerebral palsy. *Developmental Medicine and Child Neurology*. 2011;:58-59.

55. Verhaert N, Desloovere C, Wouters J. Acoustic hearing implants for mixed hearing loss: a systematic review. *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otolaryngology and Neurotology*. 2013;34(7):1201-9.
56. Su, Chun-Xiang, Yan, Li-Jiao, Lewith, George. Chinese Herbal Medicine for Idiopathic Sudden Sensorineural Hearing Loss: A Systematic Review of Randomized Clinical Trials. *Journal of Alternative & Complementary Medicine*. 2014;20(5):58-58.
57. Barreto MA, Silva IB, de Oliveira CA, Bahmad F. Intratympanic corticotherapy and tinnitus control after sudden hearing loss. *The international tinnitus journal*. 2012;17(2):186-93.
58. Araújo Eda S, Zucki F, Corteletti LC, Lopes AC, Feniman MR, Alvarenga Kde F. Hearing loss and acquired immune deficiency syndrome: systematic review. *Jornal da Sociedade Brasileira de Fonoaudiologia*. 2012;24(2):188-92.
59. Verbèque, Evi, Marijnissen, Tessa, De Belder, Niels, Van Rompaey, Vincent, Boudewyns, An, Van de Heyning, Paul, Vereeck, Luc, Hallemands, Ann. Vestibular (dys)function in children with sensorineural hearing loss: a systematic review. *International Journal of Audiology*. 2017;56(6):361-381.
60. Modest MC, Carlson ML, Wanna GB, Driscoll CL. Cochlear Implantation in Patients With Superficial Siderosis: Seven Cases and Systematic Review of the Literature. *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otolaryngology and Neurotology*. 2015;36(7):1191-6.
61. Vijendren A, Yung M, Sanchez J. The ill surgeon: a review of common work-related health problems amongst UK surgeons. *Langenbeck's archives of surgery / Deutsche Gesellschaft für Chirurgie*. 2014;399(8):967-79.
62. Soltanzadeh A, Ebrahimi H, Fallahi M, Kamalinia M, Ghassemi S, Golmohammadi R. Noise Induced Hearing Loss in Iran: (1997-2012): Systematic Review Article. *Iranian journal of public health*. 2014;43(12):1605-15.
63. Heine C, Browning CJ. Mental health and dual sensory loss in older adults: a systematic review. *Frontiers in aging neuroscience*. 2014;6(MAY):83.
64. Lanzieri TM, Dollard SC, Bialek SR, Grosse SD. Systematic review of the birth prevalence of congenital cytomegalovirus infection in developing countries. *International journal of infectious diseases : IJID : official publication of the International Society for Infectious Diseases*. 2014;22:44-8.
65. Sparreboom M, van Schoonhoven J, van Zanten BG, Scholten RJ, Mylanus EA, Grolman W, Maat B. The effectiveness of bilateral cochlear implants for severe-to-profound deafness in children: a systematic review. *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otolaryngology and Neurotology*. 2010;31(7):1062-71.
66. Schrauwen I, Khalfallah A, Ealy M, Fransen E, Claes C, Huber A, Murillo LR, Masmoudi S, Smith RJ, Van Camp G. COL1A1 association and otosclerosis: a meta-analysis. *American journal of medical genetics. Part A*. 2012;158A(5):1066-70.
67. Ferguson, Melanie A, Kitterick, Pádraig T, Chong, Lee Yee, Edmondson-Jones, Mark, Barker, Fiona, Hoare, Derek J. Hearing aids for mild to moderate hearing loss in adults. *Cochrane Database of Systematic Reviews*. 2017;9:CD012023.
68. Bartindale M, Kircher M, Adams W, Balasubramanian N, Liles J, Bell J, Leonetti J. Hearing Loss following Posterior Fossa Microvascular Decompression: A Systematic Review. *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*. 2017;;194599817728878.
69. Poblan, Adrián, García-Sánchez, Guillermín, Arteaga, Carmina. Prevalence of early neurodevelopmental disabilities in Mexico: a systematic review. *Arq Neuropsiquiatr*. 2009;67(3a):736-740.
70. Crathorne L, Bond M, Cooper C, Elston J, Weiner G, Taylor R, Stein K. A systematic review of the effectiveness and cost-effectiveness of bilateral multichannel cochlear implants in adults with severe-to-profound hearing loss. *Clinical otolaryngology : official journal of ENT-UK ; official journal of Netherlands Society for Oto-Rhino-Laryngology & Cervico-Facial Surgery*. 2012;37(5):342-54.

71. Taxini CL, Guida HL. Firefighters' noise exposure: A literature review. International archives of otorhinolaryngology. 2013;17(1):80-4.
72. Reid SM, Modak MB, Berkowitz RG, Reddiough DS. A population-based study and systematic review of hearing loss in children with cerebral palsy. Developmental medicine and child neurology. 2011;53(11):1038-45.
73. Kachniarz B, Chen JX, Gilani S, Shin JJ. Diagnostic Yield of MRI for Pediatric Hearing Loss: A Systematic Review. Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery. 2015;152(1):5-22.
74. Zhang R, Bo T, Shen L, Luo S, Li J. Effect of dexamethasone on intelligence and hearing in preterm infants: a meta-analysis. Neural regeneration research. 2014;9(6):637-45.
75. Johnston, J. Cyne, Durieux-Smith, Andrée, Angus, Douglas, O'Connor, Annette, Fitzpatrick, Elizabeth. Bilateral paediatric cochlear implants: A critical review. International Journal of Audiology. 2009;48(9).
76. Syed MI, Ilan O, Nassar J, Rutka JA. Intratympanic therapy in Meniere's syndrome or disease: up to date evidence for clinical practise. Clinical otolaryngology : official journal of ENT-UK ; official journal of Netherlands Society for Oto-Rhino-Laryngology & Cervico-Facial Surgery. 2015;40(6):682-90.
77. McCreery RW, Venediktov RA, Coleman JJ, Leech HM. An Evidence-Based Systematic Review of Amplitude Compression in Hearing Aids for School-Age Children With Hearing Loss. American journal of audiology. 2012;21(2):269-94.
78. Brown ED, Chau JK, Atashband S, Westerberg BD, Kozak FK. A systematic review of neonatal toxoplasmosis exposure and sensorineural hearing loss. International journal of pediatric otorhinolaryngology. 2009;73(5):707-11.
79. Fitzpatrick EM, Hamel C, Stevens A, Pratt M, Moher D, Doucet SP, Neuss D, Bernstein A, Na E. Sign Language and Spoken Language for Children With Hearing Loss: A Systematic Review. Pediatrics. 2015;137(1).
80. Michaud, Helen N., Duchesnet, Louise. Aural Rehabilitation for Older Adults with Hearing Loss: Impacts on Quality of Life--A Systematic Review of Randomized Controlled Trials. Journal of the American Academy of Audiology. 2017;28(7):596-609.
81. Cai T, McPherson B. Hearing loss in children with otitis media with effusion: a systematic review. International journal of audiology. 2016;56(2):1-12.
82. Badfar G., Mansouri A., Shohani M., Karimi H., Khalighi Z., Rahmati S., Delpisheh A., Veisani Y., Soleymani A., Azami M.. Hearing loss in Iranian thalassemia major patients treated with deferoxamine: A systematic review and meta-analysis. Caspian Journal of Internal Medicine. 2017;8(4):239-249.
83. Lagman C, Ong V, Chung LK, Elhajjoussa L, Fong C, Wang AC, Gopen Q, Yang I. Pediatric superior semicircular canal dehiscence: illustrative case and systematic review. Journal of neurosurgery. Pediatrics. 2017;20(2):1-8.
84. Hentschel M., Scholte M., Steens S., Kunst H., Rovers M.. The diagnostic accuracy of non-imaging screening protocols for vestibular schwannoma in patients with asymmetrical hearing loss and/or unilateral audiovestibular dysfunction: A diagnostic review and meta-analysis. Clinical Otolaryngology. 2016;42(4):815-823.
85. Rabelo, Maysa Bastos, Ana Paula, Corona. Auditory and vestibular dysfunctions in systemic sclerosis: literature review. CoDAS. 2014;26(5):337-342.
86. Li H, Li Q, Li H, Chen Y. [A literature review of epidemiological studies on mutation hot spots of Chinese population with non-syndromic hearing loss]. Lin chuang er bi yan hou tou jing wai ke za zhi = Journal of clinical otorhinolaryngology, head, and neck surgery. 2012;26(13):589-94.
87. Verheij E, Derkx LS, Stegeman I, Thomeer HG. Prevalence of hearing loss and clinical otologic manifestations in patients with 22q11.2 deletion syndrome: a literature review. Clinical otolaryngology : official journal of ENT-UK ; official journal of Netherlands Society for Oto-Rhino-Laryngology & Cervico-Facial Surgery. 2017;42(6):1319-1328.
88. van Zon A, Peters JP, Stegeman I, Smit AL, Grolman W. Cochlear Implantation for Patients with Single-Sided Deafness or Asymmetrical Hearing Loss: A Systematic Review of the Evidence. Otology

- & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology. 2014;36(2):209-19.
89. Lindau TA, Cardoso AC, Rossi NF, Giacheti CM. Anatomical Changes and Audiological Profile in Branchio-oto-renal Syndrome: A Literature Review. International archives of otorhinolaryngology. 2014;18(1):68-76.
 90. Michael H Bennett, Tom Kertesz, Matthias Perleth, Philip Yeung, Jan P Lehm. Hyperbaric oxygen for idiopathic sudden sensorineural hearing loss and tinnitus. Cochrane Database of Systematic Reviews. 2007;10(1):CD004739.
 91. John S Phillips, Brian Westerberg. Intratympanic steroids for Ménière's disease or syndrome. Cochrane Database of Systematic Reviews. 2011;(7):CD008514.
 92. Kirigodaa R, Lustig LR. A meta-analysis of the complications associated with osseointegrated hearing aids. Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology. 2013;34(5):790-4.
 93. Liebau A., Pogorzelski O., Salt A.N., Plontke S.K.. Hearing Changes After Intratympanically Applied Steroids for Primary Therapy of Sudden Hearing Loss: A Meta-analysis Using Mathematical Simulations of Drug Delivery Protocols. Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology. 2017;38(1):19-30.
 94. Fernandes R, Hariprasad S, Kumar VK. Physical therapy management for balance deficits in children with hearing impairments: A systematic review. Journal of paediatrics and child health. 2015;51(8):753-8.
 95. Chao TK, Chen TH. Predictive model for progression of hearing loss: meta-analysis of multi-state outcome. Journal of evaluation in clinical practice. 2009;15(1):32-40.
 96. Purcell PL, Shinn JR, Davis GE, Sie KC. Children with unilateral hearing loss may have lower intelligence quotient scores: A meta-analysis. The Laryngoscope. 2015;126(3):746-54.
 97. Seggas I, Koltsidopoulos P, Bibas A, Tzonou A, Sismanis A. Intratympanic steroid therapy for sudden hearing loss: a review of the literature. Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology. 2011;32(1):29-35.
 98. Brouwer MC, McIntyre P, Prasad K, van de Beek D. Corticosteroids for acute bacterial meningitis. Cochrane Database of Systematic Reviews. 2015;9(9):CD004405.
 99. Acke FR, Dhooge IJ, Malfait F, De Leenheer EM. Hearing impairment in Stickler syndrome: a systematic review. Orphanet journal of rare diseases. 2012;7(1):84.
 100. Chau J, Atashband S, Chang E, Westerberg BD, Kozak FK. A systematic review of pediatric sensorineural hearing loss in congenital syphilis. International journal of pediatric otorhinolaryngology. 2009;73(6):787-92.
 101. Silva LP, Nova CV, Lucena R. Sickle cell anemia and hearing loss among children and youngsters: literature review. Brazilian journal of otorhinolaryngology. 2012;78(1):126-31.
 102. Smith A, Gutteridge I, Elliott D, Cronin M. Acute otitis media associated bilateral sudden hearing loss: case report and literature review. The Journal of laryngology and otology. 2017;131(S2):S57-S61.
 103. José, Maria Renata, Lopes-Herrera, Simone Aparecida, Feniman, Mariza Ribeiro, Mondelli, Maria Fernanda Capoani Garcia. Language Disorders in Children with Unilateral Hearing Loss: A Systematic Review. Int. arch. otorhinolaryngol. (Impr.). 2014;18(2):198-203.
 104. Blasco MA, Redleaf MI. Cochlear implantation in unilateral sudden deafness improves tinnitus and speech comprehension: meta-analysis and systematic review. Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology. 2014;35(8):1426-32.
 105. Huddle MG, Goman AM, Kernizan FC, Foley DM, Price C, Frick KD, Lin FR. The Economic Impact of Adult Hearing Loss: A Systematic Review. JAMA otolaryngology-- head & neck surgery. 2017;143(10):1040-1048.

106. Johnson CE, Danhauer JL, Bennett M, Harrison J. Systematic review of physicians' knowledge of, participation in, and attitudes toward hearing and balance screening in the elderly population. *Seminars in Hearing*. 2009;30(3):193-206.
107. Ernst, Arne, Wagner, Jan. Systematic Review of VSB in C/M Hearing Loss. *Journal of Laryngology & Otology*. 2016;130(S3):31-31.
108. Rodenburg-Vlot MB, Ruytjens L, Oostenbrink R, Goedegebure A, van der Schroeff MP. Systematic Review: Incidence and Course of Hearing Loss Caused by Bacterial Meningitis: In Search of an Optimal Timed Audiological Follow-up. *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*. 2016;37(1):1-8.
109. Silva, Luzia Poliana Anjos da, Lucena, Rita, Vila Nova, Camila. Sickle Cell anemia and hearing loss among children and youngsters: literature review. *Braz J Otorhinolaryngol*. 2012;78(1):126-131.
110. Bittencourt AG, Ikari LS, Della Torre AA, Bento RF, Tsuji RK, Brito Neto RV. Post-lingual deafness: benefits of cochlear implants vs. conventional hearing aids. *Brazilian journal of otorhinolaryngology*. 2012;78(2):124-7.
111. Lekha Agarwal, David D Pothier. Vasodilators and vasoactive substances for idiopathic sudden sensorineural hearing loss. *Cochrane Database of Systematic Reviews*. 2009;(4):CD003422.
112. Mujica-Mota M.A., Schermbrucker J., Daniel S.J.. Eye color as a risk factor for acquired sensorineural hearing loss: A systematic review. *Otolaryngology - Head and Neck Surgery (United States)*. 2013;:P226.
113. Turchetti G, Bellelli S, Palla I, Forli F. Systematic review of the scientific literature on the economic evaluation of cochlear implants in paediatric patients. *Acta otorhinolaryngologica Italica : organo ufficiale della Società italiana di otorinolaringologia e chirurgia cervico-facciale*. 2011;31(5):311-8.
114. Chau JK, Lin JR, Atashband S, Irvine RA, Westerberg BD. Systematic review of the evidence for the etiology of adult sudden sensorineural hearing loss. *The Laryngoscope*. 2010;120(5):1011-21.
115. Perez E, Edmonds BA. A systematic review of studies measuring and reporting hearing aid usage in older adults since 1999: a descriptive summary of measurement tools. *PloS one*. 2012;7(3):e31831.
116. Forli F, Arslan E, Bellelli S, Burdo S, Mancini P, Martini A, Miccoli M, Quaranta N, Berrettini S. Systematic review of the literature on the clinical effectiveness of the cochlear implant procedure in paediatric patients. *Acta otorhinolaryngologica Italica : organo ufficiale della Società italiana di otorinolaringologia e chirurgia cervico-facciale*. 2011;31(5):281-98.
117. Shu J, Yin S, Tan AZ, He M. Association between the methylenetetrahydrofolate reductase gene C677T polymorphism and sudden sensorineural hearing loss: a meta-analysis. *European archives of oto-rhino-laryngology : official journal of the European Federation of Oto-Rhino-Laryngological Societies (EUFOS) : affiliated with the German Society for Oto-Rhino-Laryngology - Head and Neck Surgery*. 2014;272(9):2267-74.
118. Yu JN, Wu SS, He CH, Zhang CY, Mu HX, Ma WS, Liu B, Zhang Y, Yu SF. [Association between CDH23 gene polymorphisms and susceptibility to noise-induced hearing loss in the Chinese population: a meta-analysis]. *Zhonghua lao dong wei sheng zhi ye bing za zhi = Zhonghua laodong weisheng zhiyebing zazhi = Chinese journal of industrial hygiene and occupational diseases*. 2016;34(12):920-923.
119. Ravi R, Gunjawate DR, Yerraguntla K, Lewis LE, Driscoll C, Rajashekhar B. Follow-up in newborn hearing screening - A systematic review. *International journal of pediatric otorhinolaryngology*. 2016;90:29-36.
120. Vijendren A, Yung M, Sanchez J. Occupational health issues amongst UK doctors: a literature review. *Occupational medicine (Oxford, England)*. 2015;65(7):519-28.
121. Butler CC, van der Linden MK, MacMillan HL, van der Wouden JC. Should children be screened to undergo early treatment for otitis media with effusion? A systematic review of randomized trials. *Child: care, health and development*. 2003;29(6):425-32.
122. Browning GG, Rovers MM, Williamson I, Lous J, Burton MJ. Grommets (ventilation tubes) for hearing loss associated with otitis media with effusion in children. *Cochrane database of systematic reviews (Online)*. 2010;(10):CD001801.

123. Valete-Rosalino CM, Rozenfeld S. Auditory screening in the elderly: comparison between self-report and audiometry. *Brazilian journal of otorhinolaryngology*. 2005;71(2):193-200.
124. Peng KA, Wilkinson EP. Optimal outcomes for hearing preservation in the management of small vestibular schwannomas. *The Journal of laryngology and otology*. 2016;130(7):1-5.
125. van Schoonhoven J, Sparreboom M, van Zanten BG, Scholten RJ, Mylanus EA, Dreschler WA, Grolman W, Maat B. The effectiveness of bilateral cochlear implants for severe-to-profound deafness in adults: a systematic review. *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otolaryngology and Neurotology*. 2013;34(2):190-8.
126. Akinpelu OV, Peleva E, Funnell WR, Daniel SJ. Otoacoustic emissions in newborn hearing screening: a systematic review of the effects of different protocols on test outcomes. *International journal of pediatric otorhinolaryngology*. 2014;78(5):711-7.
127. Smith KA, Yunker WK. Kawasaki disease is associated with sensorineural hearing loss: a systematic review. *International journal of pediatric otorhinolaryngology*. 2014;78(8):1216-20.
128. Lammers MJ, van der Heijden GJ, Pourier VE, Grolman W. Bilateral cochlear implantation in children: a systematic review and best-evidence synthesis. *The Laryngoscope*. 2014;124(7):1694-9.
129. Bagai A, Thavendiranathan P, Detsky AS. Does this patient have hearing impairment?. *JAMA : the journal of the American Medical Association*. 2006;295(4):416-28.
130. Muñoz, Karen, Caballero, Ana, White, Karl. Effectiveness of questionnaires for screening hearing of school-age children: A comprehensive literature review. *International Journal of Audiology*. 2014;53(12).
131. Akinpelu OV, Waissbluth S, Daniel SJ. Auditory risk of hyperbilirubinemia in term newborns: a systematic review. *International journal of pediatric otorhinolaryngology*. 2013;77(6):898-905.
132. Pulcherio JO, Bittencourt AG, Burke PR, Monsanto Rda C, de Brito R, Tsuji RK, Bento RF. Carina® and Esteem®: a systematic review of fully implantable hearing devices. *PloS one*. 2014;9(10):e110636.
133. Song J, Feng Y, Acke FR, Coucke P, Vleminckx K, Dhooge IJ. Hearing loss in Waardenburg syndrome: a systematic review. *Clinical genetics*. 2015;89(4):416-425.
134. Lie A, Skogstad M, Johannessen HA, Tynes T, Mehlum IS, Nordby KC, Engdahl B, Tambs K. Occupational noise exposure and hearing: a systematic review. *International archives of occupational and environmental health*. 2015;89(3):351-72.
135. Farzal Z, Kou YF, St John R, Shah GB, Mitchell RB. The role of routine hearing screening in children with cystic fibrosis on aminoglycosides: A systematic review. *The Laryngoscope*. 2015;126(1):228-35.
136. Chou R, Dana T, Bougatsos C, Fleming C, Beil T. Screening for Hearing Loss in Adults Ages 50 Years and Older: A Review of the Evidence for the U.S. Preventive Services Task Force. *U.S. Preventive Services Task Force Evidence Syntheses, formerly Systematic Evidence Reviews*. 2011;
137. Bakker R, Aarts MC, van der Heijden GJ, Rovers MM. No evidence for the diagnostic value of Borrelia serology in patients with sudden hearing loss. *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*. 2012;146(4):539-43.
138. Plaza G, Durio E, Herráiz C, Rivera T, García-Berrocal JR, Asociación Madrileña de ORL. [Consensus on diagnosis and treatment of sudden hearing loss. Asociación Madrileña de ORL]. *Acta otorrinolaringológica española*. 2011;62(2):144-57.
139. Strifler L, Morris SK, Dang V, Tu HA, Minhas RS, Jamieson FB, Deeks SL, Crowcroft NS, Sander B. The Health Burden of Invasive Meningococcal Disease: A Systematic Review. *Journal of the Pediatric Infectious Diseases Society*. 2015;5(4):417-430.
140. Kamil RJ, Lin FR. The effects of hearing impairment in older adults on communication partners: a systematic review. *Journal of the American Academy of Audiology*. 2015;26(2):155-82.
141. Chan DK, Chang KW. GJB2-associated hearing loss: systematic review of worldwide prevalence, genotype, and auditory phenotype. *The Laryngoscope*. 2014;124(2):E34-53.

142. Silva MP, Comerlatto Junior AA, Bevilacqua MC, Lopes-Herrera SA. Instruments to assess the oral language of children fitted with a cochlear implant: a systematic review. *Journal of applied oral science : revista FOB*. 2011;19(6):549-53.
143. Van Rompaey V, Claes G, Potvin J, Wouters K, Van de Heyning PH. Systematic review of the literature on nitinol prostheses in surgery for otosclerosis: assessment of the adequacy of statistical power. *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*. 2011;32(3):357-66.
144. Ravi R, Gunjawate DR, Yerraguntla K, Rajashekhar B, Lewis LE. Knowledge and attitude of parents/caregivers towards hearing loss and screening in newborns - a systematic review. *International journal of audiology*. 2016;55(12):715-722.
145. Monasta L, Ronfani L, Marchetti F, Montico M, Vecchi Brumatti L, Bavcar A, Grasso D, Barbiero C, Tamburlini G. Burden of disease caused by otitis media: systematic review and global estimates. *PloS one*. 2012;7(4):e36226.
146. Vasconcellos AP, Colello S, Kyle ME, Shin JJ. Societal-level Risk Factors Associated with Pediatric Hearing Loss: A Systematic Review. *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*. 2014;151(1):29-41.
147. Zhou S, Wang R, Zhou J, Liu S, Zhou B, Cao L. [Association of GSTM1 and GSTT1 polymorphisms with noise-induced hearing loss: a meta-analysis]. *Zhonghua lao dong wei sheng zhi ye bing za zhi = Zhonghua laodong weisheng zhiyebing zazhi = Chinese journal of industrial hygiene and occupational diseases*. 2014;32(2):123-5.
148. Fagundes NCF, Rabello NM, Maia LC, Normando D, Mello KCFR. Can rapid maxillary expansion cause auditory improvement in children and adolescents with hearing loss? A systematic review. *The Angle orthodontist*. 2017;87(6):886-896.
149. Henshaw H, Ferguson MA. Efficacy of individual computer-based auditory training for people with hearing loss: a systematic review of the evidence. *PloS one*. 2013;8(5):e62836.
150. Ianuale C, Cadoni G, De Feo E, Liberati L, Simo RK, Paludetti G, Ricciardi W, Boccia S. A systematic review and meta-analysis of the diagnostic accuracy of anti-heat shock protein 70 antibodies for the detection of autoimmune hearing loss. *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*. 2013;34(2):214-9.
151. Papacharalampous GX, Nikolopoulos TP, Davilis DI, Xenellis IE, Korres SG. Universal newborn hearing screening, a revolutionary diagnosis of deafness: real benefits and limitations. *European archives of oto-rhino-laryngology : official journal of the European Federation of Oto-Rhino-Laryngological Societies (EUFOS) : affiliated with the German Society for Oto-Rhino-Laryngology - Head and Neck Surgery*. 2011;268(10):1399-406.
152. Ramakrishnan M, Ulland AJ, Steinhardt LC, Moisi JC, Were F, Levine OS. Sequelae due to bacterial meningitis among African children: a systematic literature review. *BMC medicine*. 2009;7:47.
153. Lee DY, Lee JY, Kim YH. Management of tinnitus in children: Review of literature and effect of counseling. *Auris, nasus, larynx*. 2017;
154. Nelson HD, Bougatsos C, Nygren P. Universal newborn hearing screening: systematic review to update the 2001 US Preventive Services Task Force Recommendation. *Pediatrics*. 2008;122(1):e266-76.
155. Hentschel MA, Huizinga P, van der Velden DL, Wegner I, Bittermann AJ, van der Heijden GJ, Grolman W. Limited evidence for the effect of sodium fluoride on deterioration of hearing loss in patients with otosclerosis: a systematic review of the literature. *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*. 2014;35(6):1052-7.
156. Shu J., Yin S., Tan A.-Z., He M.. Association between the prothrombin G20210A mutation and sudden sensorineural hearing loss in European population: A meta-analysis. *Thrombosis Research*. 2015;135(1):73-77.
157. Wang M, Liu Y, Du Z, Zhu X, Luo G. [A systematic review of vasodilators for sudden sensorineural hearing loss]. *Lin chuang er bi yan hou tou jing wai ke za zhi = Journal of clinical otorhinolaryngology, head, and neck surgery*. 2010;24(19):869-71.

158. Sharon A Simpson, Ruth Lewis, Judith van der Voort, Christopher C Butler. Oral or topical nasal steroids for hearing loss associated with otitis media with effusion in children. *Cochrane Database of Systematic Reviews*. 2011;(5):CD001935.
159. Peters JP, Ramakers GG, Smit AL, Grolman W. Cochlear implantation in children with unilateral hearing loss: A systematic review. *The Laryngoscope*. 2015;126(3):713-21.
160. Tysome JR, Moorthy R, Lee A, Jiang D, O'Connor AF. Systematic review of middle ear implants: do they improve hearing as much as conventional hearing AIDS?. *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*. 2010;31(9):1369-75.
161. Colquitt JL, Jones J, Harris P, Loveman E, Bird A, Clegg AJ, Baguley DM, Proops DW, Mitchell TE, Sheehan PZ, Welch K. Bone-anchored hearing aids (BAHAs) for people who are bilaterally deaf: a systematic review and economic evaluation. *Health technology assessment (Winchester, England)*. 2011;15(26):1-200, iii-iv.
162. Araújo, Eliene da Silva, Alvarenga, Kátia de Freitas, Feniman, Mariza Ribeiro, Lopes, Andrea Cintra, Corteletti, Lilian Cássia Bórnia Jacob, Zucki, Fernanda. Hearing loss and acquired immune deficiency syndrome: systematic review. *J Soc Bras Fonoaudiol*. 2012;24(2):188-192.
163. Labus J, Breil J, Stützer H, Michel O. Meta-analysis for the effect of medical therapy vs. placebo on recovery of idiopathic sudden hearing loss. *The Laryngoscope*. 2010;120(9):1863-71.
164. Thomson RS, Auduong P, Miller AT, Gurgel RK. Hearing loss as a risk factor for dementia: A systematic review. *Laryngoscope investigative otolaryngology*. 2017;2(2):69-79.
165. Vlastarakos PV, Papacharalampous G, Maragoudakis P, Kampessis G, Maroudias N, Candilopoulos D, Nikolopoulos TP. Are intra-tympanically administered steroids effective in patients with sudden deafness? Implications for current clinical practice. *European archives of oto-rhino-laryngology : official journal of the European Federation of Oto-Rhino-Laryngological Societies (EUFOS) : affiliated with the German Society for Oto-Rhino-Laryngology - Head and Neck Surgery*. 2012;269(2):363-80.
166. Peeters N, van der Kolk BY, Thijssen SF, Colnot DR. Lyme disease associated with sudden sensorineural hearing loss: case report and literature review. *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*. 2013;34(5):832-7.
167. Wang J., Li J., Peng K., Fu Z.-Y., Tang J., Yang M.-J., Chen Q.-C.. Association of the C47T polymorphism in superoxide dismutase gene 2 with noise-induced hearing loss: a meta-analysis. *Brazilian Journal of Otorhinolaryngology*. 2016;83(1):80-87.
168. Jing W, Zongjie H, Denggang F, Na H, Bin Z, Aifen Z, Xijiang H, Cong Y, Yunping D, Ring HZ, Ring BZ. Mitochondrial mutations associated with aminoglycoside ototoxicity and hearing loss susceptibility identified by meta-analysis. *Journal of medical genetics*. 2015;52(2):95-103.
169. Abou Tayoun AN, Al Turki SH, Oza AM, Bowser MJ, Hernandez AL, Funke BH, Rehm HL, Amr SS. Improving hearing loss gene testing: a systematic review of gene evidence toward more efficient next-generation sequencing-based diagnostic testing and interpretation. *Genetics in medicine : official journal of the American College of Medical Genetics*. 2015;18(6):545-53.
170. Su CX, Yan LJ, Lewith G, Liu JP. Chinese herbal medicine for idiopathic sudden sensorineural hearing loss: a systematic review of randomised clinical trials. *Clinical otolaryngology : official journal of ENT-UK ; official journal of Netherlands Society for Oto-Rhino-Laryngology & Cervico-Facial Surgery*. 2013;38(6):455-73.
171. Roth TN, Hanebuth D, Probst R. Prevalence of age-related hearing loss in Europe: a review. *European archives of oto-rhino-laryngology : official journal of the European Federation of Oto-Rhino-Laryngological Societies (EUFOS) : affiliated with the German Society for Oto-Rhino-Laryngology - Head and Neck Surgery*. 2011;268(8):1101-7.
172. Wegner I, Bittermann AJ, Hentschel MA, van der Heijden GJ, Grolman W. Pure-tone audiometry in otosclerosis: insufficient evidence for the diagnostic value of the Carhart notch. *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*. 2013;149(4):528-32.
173. Coelho AC, Brasolotto AG, Bevilacqua MC. Systematic analysis of the benefits of cochlear implants on voice production. *Jornal da Sociedade Brasileira de Fonoaudiologia*. 2012;24(4):395-402.

174. Barker, Fiona, Mackenzie, Emma, Elliott, Lynette, Jones, Simon, de Lusignan, Simon. Interventions to improve hearing aid use in adult auditory rehabilitation. Cochrane Database of Systematic Reviews. 2016;8(8):CD010342.
175. Cavalcanti HG, de Melo LP, Buarque LF, Guerra RO. Overview of newborn hearing screening programs in Brazilian maternity hospitals. Brazilian journal of otorhinolaryngology. 2014;80(4):346-53.
176. Fuente C, Adrian. Solvent exposure and central auditory dysfunction: a literature review on the scientific evidence. Rev. otorrinolaringol. cir. cabeza cuello. 2010;70(3):273-282.
177. Nishio SY, Usami SI. Outcomes of cochlear implantation for the patients with specific genetic etiologies: a systematic literature review. Acta oto-laryngologica. 2017;137(7):730-742.
178. Crane RA, Camilon M, Nguyen S, Meyer TA. Steroids for treatment of sudden sensorineural hearing loss: A meta-analysis of randomized controlled trials. The Laryngoscope. 2014;125(1):209-17.
179. Tyler GK, Martin TP, Baguley DM. Systematic review of outcome of cochlear implantation in superficial siderosis. Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology. 2012;33(6):976-82.
180. Theunissen EA, Bosma SC, Zuur CL, Spijker R, van der Baan S, Dreschler WA, de Boer JP, Balm AJ, Rasch CR. Sensorineural hearing loss in patients with head and neck cancer after chemoradiotherapy and radiotherapy: A systematic review of the literature. Head & neck. 2013;37(2):281-292.
181. Beswick R, Driscoll C, Kei J. Monitoring for postnatal hearing loss using risk factors: a systematic literature review. Ear and hearing. 2012;33(6):745-56.
182. Chen P, Wang S, Zhang Y, Huang H, Zhang C, Xiao Z. [Intratympanic versus systemic steroid initial treatment for idiopathic sudden hearing loss: a Meta-analysis]. Lin chuang er bi yan hou tou jing wai ke za zhi = Journal of clinical otorhinolaryngology, head, and neck surgery. 2015;29(22):1970-7.
183. Miller G, Miller C, Marrone N, Howe C, Fain M, Jacob A. The impact of cochlear implantation on cognition in older adults: a systematic review of clinical evidence. BMC geriatrics. 2015;15:16.
184. Rachakonda T, Lieu J.E.C., Thorne M.C.. Quality of life in childhood hearing loss: Systematic review. Otolaryngology - Head and Neck Surgery (United States). 2012;:P235.
185. Kuppler K, Lewis M, Evans AK. A review of unilateral hearing loss and academic performance: is it time to reassess traditional dogmata?. International journal of pediatric otorhinolaryngology. 2013;77(5):617-22.
186. Lloyd SK, King AT, Rutherford SA, Hammerbeck-Ward CL, Freeman SR, Mawman DJ, O'Driscoll M, Evans DG. Hearing Optimization in Neurofibromatosis type 2: A Systematic Review. Clinical otolaryngology : official journal of ENT-UK ; official journal of Netherlands Society for Oto-Rhino-Laryngology & Cervico-Facial Surgery. 2017;42(6):1329-1337.
187. Fandiño M, Bhimrao SK, Saxby AJ, Dar Santos RC, Westerberg BD. Fibrous dysplasia of the temporal bone: systematic review of management and hearing outcomes. Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology. 2014;35(10):1698-706.
188. Antonioli CA, Momensohn-Santos TM, Benaglia TA. High-frequency Audiometry Hearing on Monitoring of Individuals Exposed to Occupational Noise: A Systematic Review. International archives of otorhinolaryngology. 2016;20(3):281-9.
189. Spear SA, Schwartz SR. Intratympanic steroids for sudden sensorineural hearing loss: a systematic review. Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery. 2011;145(4):534-43.
190. Fuente A. The olivocochlear system and protection from acoustic trauma: a mini literature review. Frontiers in systems neuroscience. 2015;9:94.
191. Antonioli, Cleonice Aparecida Silva, Benaglia, Tatiana Aparecida Silva, Momensohn-Santos, Teresa Maria. High-frequency Audiometry Hearing on Monitoring of Individuals Exposed to Occupational Noise: A Systematic Review. Int. arch. otorhinolaryngol. (Impr.). 2016;20(3):281-289.

192. Kraaijenga VJ, Ramakers GG, Grolman W. The Effect of Earplugs in Preventing Hearing Loss From Recreational Noise Exposure: A Systematic Review. *JAMA otolaryngology-- head & neck surgery.* 2016;142(4):389-94.
193. Appachi S, Specht JL, Raol N, Lieu JEC, Cohen MS, Dedhia K, Anne S. Auditory Outcomes with Hearing Rehabilitation in Children with Unilateral Hearing Loss: A Systematic Review. *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology- Head and Neck Surgery.* 2017;157(4):194599817726757.
194. Bruchhage KL, Leichtle A, Schönweiler R, Todt I, Baumgartner WD, Frenzel H, Wollenberg B. Systematic review to evaluate the safety, efficacy and economical outcomes of the Vibrant Soundbridge for the treatment of sensorineural hearing loss. *European archives of oto-rhino-laryngology : official journal of the European Federation of Oto-Rhino-Laryngological Societies (EUFOS) : affiliated with the German Society for Oto-Rhino-Laryngology - Head and Neck Surgery.* 2016;274(4):1797-1806.
195. Bittencourt AG, Torre AA, Bento RF, Tsuji RK, Brito Rd. Prelingual deafness: Benefits from cochlear implants versus conventional hearing aids. *International archives of otorhinolaryngology.* 2012;16(3):387-90.
196. Prieve BA, Schooling T, Venediktov R, Franceschini N. An Evidence-Based Systematic Review on the Diagnostic Accuracy of Hearing Screening Instruments for Preschool and School-age Children. *American journal of audiology.* 2015;24(2):250-67.
197. Alemi AS, Chan DK. Progressive Hearing Loss and Head Trauma in Enlarged Vestibular Aqueduct: A Systematic Review and Meta-analysis. *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery.* 2015;153(4):512-7.
198. Su C.-X., Yan L.-J., Lewith G., Liu J.-P.. Chinese herbal medicine for idiopathic sudden sensorineural hearing loss: A systematic review of randomized clinical trials. *Journal of Alternative and Complementary Medicine.* 2014;:A62-A63.
199. Benjamin PC Wei, Dimitra Stathopoulos, Stephen O'Leary. Steroids for idiopathic sudden sensorineural hearing loss. *Cochrane Database of Systematic Reviews.* 2013;7(7):CD003998.
200. Mujica-Mota M, Waissbluth S, Daniel SJ. Characteristics of radiation-induced sensorineural hearing loss in head and neck cancer: a systematic review. *Head & neck.* 2013;35(11):1662-8.
201. Ledesma AL, Barreto MA, Bahmad F. Vestibular evoked myogenic potential: its use in Sudden Sensorineural Hearing Loss. *The international tinnitus journal.* 2014;19(1):82-5.
202. Greer N, Sayer N, Koeller E, Velasquez T, Wilt TJ. Outcomes Associated With Blast Versus Nonblast-Related Traumatic Brain Injury in US Military Service Members and Veterans: A Systematic Review. *The Journal of head trauma rehabilitation.* 2017;
203. Shin JJ, Keamy DG, Steinberg EA. Medical and surgical interventions for hearing loss associated with congenital cytomegalovirus: a systematic review. *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery.* 2011;144(5):662-75.
204. Westerberg BD, Atashband S, Kozak FK. A systematic review of the incidence of sensorineural hearing loss in neonates exposed to Herpes simplex virus (HSV). *International journal of pediatric otorhinolaryngology.* 2008;72(7):931-7.
205. Lu YJ, Yao J, Wei QJ, Xing GQ, Cao X. Diagnostic Value of SLC26A4 Mutation Status in Hereditary Hearing Loss With EVA: A PRISMA-Compliant Meta-Analysis. *Medicine.* 2015;94(50):e2248.
206. McCreery RW, Venediktov RA, Coleman JJ, Leech HM. An Evidence-Based Systematic Review of Frequency Lowering in Hearing Aids for School-Age Children With Hearing Loss. *American journal of audiology.* 2012;21(2):313-28.
207. Verbeek JH, Kateman E, Morata TC, Dreschler WA, Mischke C. Interventions to prevent occupational noise-induced hearing loss: A Cochrane systematic review. *International journal of audiology.* 2014;53 Suppl 2(Suppl 2):S84-96.
208. Ramakers GG, van Zon A, Stegeman I, Grolman W. The effect of cochlear implantation on tinnitus in patients with bilateral hearing loss: A systematic review. *The Laryngoscope.* 2015;125(11):2584-92.

209. Upala S., Rattanawong P., Vutthikraivit W., Sanguankeo A.. Significant association between osteoporosis and hearing loss: A systematic review and meta-analysis. *Brazilian Journal of Otorhinolaryngology*. 2016;83(6):646-652.
210. Nelson HD, Bougatsos C, Nygren P. Universal Newborn Hearing Screening: Systematic Review to Update the 2001 U.S. Preventive Services Task Force Recommendation. *U.S. Preventive Services Task Force Evidence Syntheses, formerly Systematic Evidence Reviews*. 2008;
211. Chen JX, Kachniarz B, Shin JJ. Diagnostic yield of computed tomography scan for pediatric hearing loss: a systematic review. *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*. 2014;151(5):718-39.