***Supplementary Material 3***

**A multimodal database for the collection of interdisciplinary audiological research data**

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This supplementary material includes tables with all the variables implemented in the database, their type and their possible values or categories.

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| --- | --- | --- |
| **Epidemiological and demographic data** | | |
| Variable name | Type | Value |
| Age | Numerical |  |
| ID (NUHSA) | Numerical |  |
| Gender | Categorical | Man  Woman |
| Passive patient | Categorical | Active  Passive |
| Postal code | Numerical |  |
| Habitat | Categorical | Urban  Rural |
| Spanish nationality | Categorical | No  Yes |
| Other nationality | Categorical |  |
| Spanish ancestry | Categorical | No  Yes |
| Other ancestry | Categorical |  |
| Assitance / family support | Categorical | No  Yes |
| Lifestyle | Categorical | He/She lives alone  He/She lives with his/her partner  He/She lives with their sons/daughters  Family unit |
| Laterality | Categorical | Left-handed  Right-handed  Ambidextrous |
| Language | Categorical | Monolingual  Multilingual |
| Language knowledge | Categorical | Spanish  Catalan  Basque  Galician  Valencian  Aranese  German  Arabic  French  English  Portuguese  Other |
| Regular work activity between 45 – 65 years | Categorical | No  Yes |
| Housework | Categorical | No  Yes |
| Number of years worked between 45 – 65 years | Numerical |  |
| Work activity | Categorical | Directors and managers  Scientific and intellectual technicians and professionals  Technicians; support professionals  Accounting, clerical, administrative and other clerical workers  Catering, personal, protective and sales service workers  Skilled agricultural, livestock, forestry and fishery sector workers  Craft and skilled workers in manufacturing and construction (except plant and machinery operators)  Plant and machinery operators and assemblers  Elementary occupations |
| **Educational level** | | |
| Variable name | Type | Values |
| Total years of education | Numerical | Sum of all years invested in education |

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| **Family medical history** | | |
| Variable name | Type | Values |
| Family hearing disorders | Categorical | No  Yes |
| Family degree of hearing impairment | Categorical | First degree (father, mother, siblings)  Second degree (uncle/aunts, grandparents...) |
| Family history of dementia | Categorical | No  Mild cognitive impairment  Early onset dementia [before 60-65 years]  Dementia [Alzheimer's] |
| Family degree of dementia | Categorical | First degree (father, mother, siblings)  Second degree (uncle/aunts, grandparents...) |
| Parkinsonism or other movement disorders | Categorical | No  Yes |
| Family degree of movement pathology | Categorical | First degree (father, mother, siblings)  Second degree (uncle/aunts, grandparents...) |
| Down's syndrome or other developmental disorders | Categorical | No  Yes |
| Family degree of developmental disorder | Categorical | First degree (father, mother, siblings)  Second degree (uncle/aunts, grandparents...) |
| Psychiatric Disease | Categorical | No  Yes |
| Family degree of psychiatric disease | Categorical | First degree (father, mother, siblings)  Second degree (uncle/aunts, grandparents...) |
| Huntington's disease | Categorical | No  Yes |
| Family degree of Huntington’s disease | Categorical | First degree (father, mother, siblings)  Second degree (uncle/aunts, grandparents...) |

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| **Personal medical history** | | |
| Variable name | Type | Values |
| Diabetes mellitus (DM) | Categorical | No  Yes |
| Glucose | Numerical | X (mg/dL) |
| DM treatment | Categorical | Diet  Oral anti-diabetics  Insulin |
| DM control - Glycosylated haemoglobin (HbA1c) [<5.7% normal; 5.7 - 6.4% pre-diabetes; diabetes ≥6.5%]. | Numerical | X (%) |
| Hypertension (HBP) | Categorical | No  Yes |
| HBP degrees | Categorical | Grade 1 (SBP 140 - 160mmHg and/or DBP 90 - 99mmHg)  Grade 2 (SBP 160 - 180mmHg and/or DBP100 - 109mmHg)  Grade 3 (SBP >180mmHg and/or DBP >110mmHg) |
| HBP treatment | Categorical | No  Yes |
| HBP Control: Do you check your blood pressure at least every 2 years? | Categorical | Non-existent  Irregular  Regular |
| Dyslipidemia (Hypercholesterolemia) | Categorical | No  Yes |
| Dyslipidemia (Hypertriglyceridemia) | Categorical | No  Yes |
| Dyslipidemia control | Categorical | Non-existent  Irregular  Regular |
| Dyslipidemia treatment | Categorical | No  Yes |
| Cancer | Categorical | No  Yes |
| Cancer type | Categorical | Neuroblastoma  Lung cancer  Lymphoma  Skin cancer  Melanoma  breast cancer  Uterine cancer  Neck cancer  Leukemia  Prostate cancer  Colon cancer  Testicular cancer |
| Start of cancer | Date | yyyy.mm.dd |
| End of cancer | Date | yyyy.mm.dd |
| Cancer therapy | Categorical | No  Yes |
| Type of cancer therapy | Categorical | Radiotherapy  Chemotherapy  Immunotherapy  Proton therapy  Gene therapy  Surgery |
| Sleep disorder | Categorical | Insomnia  Excessive daytime sleepiness  Sleep apnea  Circadian alterations  Sinusitis that interferes with sleep |
| Heart diseases | Categorical | Heart failure  Arrhythmias  Structural heart diseases [valvulopathies, cardiomyopathies, congenital heart diseases...]  Arterial disease [aneurysms, arterial occlusion]  Venous and lymphatic disease |
| Respiratory diseases | Categorical | Asthma  Chronic bronchitis  Pneumonia  Chronic obstructive pulmonary disease-COPD  Interstitial diseases  Lung neoplasms |
| Psychiatric disorders | Categorical | Anxious disorder  Schizophrenia  Bipolar disorder  Depression  Mood disorder [depressive syndrome, bipolar disorder...]  Psychotic disorder  Substance abuse disorder  Other psychiatric disorders  Other psychiatric illnesses |
| Treatment of psychiatric disorders (Antidepressants) | Categorical | No  Yes |
| Treatment of psychiatric disorders (current or past treatment or occasional use of anxiolytics) | Categorical | No  Yes |
| Neurological diseases | Categorical | Ictus  Stroke  Aneurysm  Epilepsy  Dementia  Benign brain tumor  Meningitis  Neurodegenerative disease  Autism or Asperger's  Cerebrovascular disease  Autoimmune disease  Headache  Epilepsy  Spinal diseases [hernias, spinal compressions, fractures...]  Movement disorders [Parkinson's, multiple system atrophy, progressive supranuclear palsy, diffuse Lewy body disease, tremor, dystonia, tics, chorea, hemiballismus...]  Motor plate diseases [myasthenia gravis, Eaton-Lambert syndrome, botulism] or Neuropathies [Guillain-Barré/ acute polyradiculoneuritis, chronic demyelinating polyneuropathy, diabetic neuropathy, hereditary neuropathies]  Other neurological diseases (ataxias, myopathies, motor neuron diseases) |
| Metabolic diseases | Categorical | Hypothyroidism  Vitamin B12 deficiency  Other vitamin deficiencies  chronic liver disease  Other metabolic disorders [uremia, amyloidosis..., others] |
| Coagulopathies | Categorical | Hemophilia A and B  Von Willebrand disease  Inherited deficiencies of coagulation factors  Deficiency of vitamin K dependent factors  Hereditary fibrinogen disorder  Disseminated intravascular coagulation  Vitamin K deficiency  Chronic liver disease |
| Thrombophilias | Categorical | Factor V Leiden mutation  G2210A variant of the prothrombin gene  Protein C deficiency  Protein S deficiency  Antithrombin deficiency  Antiphospholipid syndrome  Hyperhomocysteinemia  Plasminogen deficiency |
| Other diseases | Categorical | Sphincter control  Arthritis or rheumatism  Osteoporosis  Fibromyalgia  Prostate  Psoriasis  Lupus  intestinal diseases  Graves' disease |
| Long-term COVID-19 sequelae | Categorical | Asthenia/general fatigue  Respiratory sequelae  Cardiological sequelae  Neurological sequelae  Psychiatric sequelae |
| Tinnitus | Categorical | No  Yes |
| Vertigo | Categorical | No  Yes |
| Degree of physical disability (%) | Numerical | 0-100 |

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| **Physical exploration** | | |
| Variable name | Type | Values |
| Weight | Numerical | X (Kg) |
| Height | Numerical | X (m) |
| Body mass index | Numerical | X (Kg/m2) |
| Waist | Numerical | X (cm) |
| Hip | Numerical | X (cm) |
| Waist-hip ratio (WHR) | Numerical | X (cm/cm)  \*Normal if ≤0.80 for women and ≤0.95 for men |
| Resting heart rate | Numerical | X (beats per minute – bpm)  \*Normal in adults if <100 bpm |
| Systolic blood pressure | Numerical | X (millimeters of mercury – mmHg)  \*Normal in adults if < 140mmHg |
| Diastolic blood pressure | Numerical | X (millimeters of mercury – mmHg)  \*Normal in adults if < 90mmHg |

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| **Pharmacological treatment** | | |
| Variable name | Type | Values |
| Drug name | Categorical |  |
| Dose | Numerical | Amount administered (g, mg and/or ml). |

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| **Lifestyle** | | |
| Variable name | Type | Values |
| Active smoking | Categorical | Non-smoker (if ≥ 1 year without smoking)  Active smoker  Former smoker |
| Number of cigarettes per day | Numerical |  |
| Total years of smoking | Numerical |  |
| Tobacco index | Numerical | Less than 10 none, 10-20 moderate, 21-40 intense, more than 41 high |
| Active alcoholism | Categorical | No  Yes  Ex-drinker |
| Total number of years you have been drinking/drank | Numerical |  |
| Number of glasses of beer per week (1 glass is 200 ml and 10 g of alcohol) | Numerical |  |
| Number of glasses of wine per week (1 glass is 100 ml and 10 g of alcohol) | Numerical |  |
| Number of shots of liquor (whiskey, gin, anise,...) per week (1 shot is 25 ml and 10 g of alcohol) | Numerical |  |
| Number of glasses of liquor (whiskey, gin, anise,...) per week (1 glass is 50 ml and 20 g of alcohol) | Numerical |  |
| Partial amount of beer alcohol | Numerical | Number of beer glasses x 10 |
| Partial amount of wine alcohol | Numerical | Number of wine glasses x 10 |
| Partial amount of alcohol liqueurs (shot) | Numerical | Number of shots x 10 |
| Partial amount of alcohol liqueurs (glasses) | Numerical | Number of glasses x 20 |
| Grams of alcohol per week | Numerical | Sum of partial amounts of alcohol consumed (grams) |
| Substance abuse | Categorical | No  Yes |
| Sleep quality | Categorical | Good  Regular  Bad |

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| **Genetics** | | |
| Variable name | Type | Values |
| Presence of genetic alteration related to hearing loss | Categorical | No  Yes |
| Genetic alteration related to hearing loss (type) | Categorical | Connexin 26 – GJB2  Connexin 30 – GJB6  Connexin 31 – GJB3  13q12 mutation  X-linked non-syndromic deafness - POU3F4  Wolframine – WFS1  Another alteration |

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| **Speech therapy- Categories of Auditory Performance** | | |
| Variable name | Type | Values |
| Detects ambient sounds | Categorical | No  Yes |
| Responds to speech sounds (e.g., “come”) | Categorical | No  Yes |
| Identifies environmental sounds | Categorical | No  Yes |
| Discriminates some speech sounds without lip reading | Categorical | No  Yes |
| Understands common phrases without lip reading | Categorical | No  Yes |
| Understands a conversation without lip reading | Categorical | No  Yes |
| Uses the phone with a known interlocutor | Categorical | No  Yes |
| Total on the scale | Numerical |  |

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| **Audiology** | | | |
| Variable name | | Type | Values |
| Hearing loss | Type of hearing loss | Categorical | Conductive  Neurosensory  Mixed |
| Hearing deprivation time (years) | Numerical | 0 -100 |
| Degree of hearing loss | Categorical | Mild  Moderate  Severe  Deep  Cophosis |
| Etiology | Categorical | Autoimmune  Aging (presbycusis)  Non-syndromic genetics  Syndromic genetics  Hyperbilirubinemia with exchange transfusion  Hypothyroidism  Neonatal hypoxia/asphyxia  Iatrogenic  Idiopathic  infectious  Neurodegenerative  Otological pathology  Prematurity  acoustic trauma  Ototoxicity  Head trauma  Tumor  Vascular  Assisted ventilation |
| Onset of deafness | Categorical | Prelocutive  Postlocutive  Perillocutive |
| Type of hearing aid device | Categorical | None  Hearing aid  Bone implant  Cochlear implant |
| Cochlear Implant brand | Categorical | Cochlear  MEDEL  Advanced Bionics  Oticon Medical |
| Establishment: hereditary | Categorical | Yes  No |
| Establishment | Categorical | Sudden  Progressive |
| Audiometry | Hearing aid device | Categorical | None  Hearing aid  Bone implant  Cochlear implant |
| Contralateral masking | Categorical | No  Yes |
| Masking intensity  (dB HL) | Numerical | 0-120 |
| Type of stimulus | Categorical | Pure Tone  Warble Tone  NB  WN |
| Transducer | Categorical | Insertion Headphones  Headset  Bone headband  Free field |
| Pulsation | Categorical | Unique  Pulsatile  Continuous |
| Hearing threshold at 250 Hz (dB HL) | Numerical | 0:5:120 |
| Hearing threshold at 500 Hz (dB HL) | Numerical | 0:5:120 |
| Hearing threshold at 1000 Hz (dB HL) | Numerical | 0:5:120 |
| Hearing threshold at 2000 Hz (dB HL) | Numerical | 0:5:120 |
| Hearing threshold at 3000 Hz (dB HL) | Numerical | 0:5:120 |
| Hearing threshold at 4000 Hz (dB HL) | Numerical | 0:5:120 |
| Hearing threshold at 6000 Hz (dB HL) | Numerical | 0:5:120 |
| Hearing threshold at 8000 Hz (dB HL) | Numerical | 0:5:120 |
| Hearing threshold at 10.000 Hz (dB HL) | Numerical | 0:5:120 |
| Hearing threshold at 11.200 Hz (dB HL) | Numerical | 0:5:120 |
| Hearing threshold at 12.500 Hz (dB HL) | Numerical | 0:5:120 |
| Hearing threshold at 14.000 Hz (dB HL) | Numerical | 0:5:120 |
| Hearing threshold at 16.000 Hz (dB HL) | Numerical | 0:5:120 |
| Hearing threshold at 18.000 Hz (dB HL) | Numerical | 0:5:120 |
| Hearing threshold at 20.000 Hz (dB HL) | Numerical | 0:5:120 |
| Word test | Hearing aid type | Categorical | None  Hearing aid  Bone implant  Cochlear implant |
| Contralateral masking | Categorical | No  Yes |
| Masking intensity (dB HL) | Numerical | 0-120 |
| Intensity (dB HL) | Numerical | 0-120 |
| Score | Numerical | 0-100 % |
| List | Categorical | Monosyllabic  Disyllabic  Trisyllabic |
| S/R ratio | Numerical |  |
| Hearing aid type | Categorical | None  Hearing aid  Bone implant  Cochlear implant |
| Rate score S/R 0 dB | Numerical | 0-100 % |
| Rate score S/R 5 dB | Numerical | 0-100 % |
| Rate score S/R 10 dB | Numerical | 0-100 % |
| Rate score S/R 15 dB | Numerical | 0-100 % |
| Rate score S/R 20 dB | Numerical | 0-100 % |
| SMRT test | Ripples per octave | Numerical |  |
| Hearing aid | Hearing aid type | Categorical | None  Hearing aid  Bone implant  Cochlear implant |
| Brand | Categorical | Cochlear  MEDEL  Advanced Bionics (AB)  Oticon Medical |
| Implant model (Cochlear) | Categorical | CI22M  CI24M Series  CI24RE Series  CI500/Profile Series  CI600/Profile Plus Series |
| Processor model (Cochlear) | Categorical | Nucleus 5 (CP810)  Nucleus 6 (CP910)  Nucleus 6 (CP920)  Kanso (CP950)  Nucleus 7 (CP1000)  Nucleus 8 (CP1100)  Kanso 2 (CP1150) |
| Electrode model (Cochlear) | Categorical | Profile Plus CI632  Profile Plus CI622  Profile Plus CI612  Profile CI532  Profile CI522  Profile CI512  Profile ABI541  CI422  CI25RE (CA)  CI24RE (ST) |
| Coding strategy (Cochlear) | Categorical | ACE  MP3000  SPEAK  CIS |
| Implant type (MED-EL) | Categorical | Synchrony ST  Sonata  Sonata 2  Concerto  Synchrony 2  Pulsar  Combi 40+ |
| Processor type (MED-EL) | Categorical | Rondo  Sonnet  Opus 2  Rondo 2  Rondo 3  Sonnet 2 |
| Electrode type (MED-EL) | Categorical | Standard  Flex28  Flexsoft  Flex 26  Flex 24  Flex 20  Medium  Compress  Form 19  Form 24 |
| Coding strategy (MED-EL) | Categorical | FS4-p  FS4  FSP  HDCIS |
| Implant type (AB) | Categorical | C1  CII  HiRes 90K  HiRes 90K Advantage  HiRes Ultra  HiRes Ultra 3D |
| Processor type (AB) | Categorical | Harmony  Neptune  Naida CI Q30  Naida CI Q70  Naida CI Q90  Chorus  Marvel M90  Sky Marvel |
| Electrode type (AB) | Categorical | Standard Radial Bipolar  Enhanced Bipolar  HiFocus  HiFocus II  HiFocus 1J  HiFocus Hélix  HiFocus MidScala  HiFocus Slim J |
| Coding strategy (AB) | Categorical | CIS  MPS  SAS  HiRes P  HiRes S  HiRes P with Fidelity 120  HiRes S with Fidelity 120  Optima P  Optima S |
| Implant type (Oticon) | Categorical | Neuro ZTI |
| Processor type (Oticon) | Categorical | Neuro 1  Neuro 2  Neuro 3 |
| Electrode type (Oticon) | Categorical | EVO  Classic |
| Coding strategy (Oticon) | Categorical | Crystallis  Crystallis + |
| CI fitting | Use (hours per day) | Numericalal | 0 -24 |
| Telemetry | Categorical | Fail  Correct |
| Electrodes disabled/not inserted | Categorical | From 1 to 12 Med-El  From 22 to 1 Cochlear  From 1 to 16 AB  From 20 to 1 Oticon |
| Reason for deactivating the electrode | Categorical | Failed impedance telemetry  Extracochlear  No sound sensation  Absence of neural response  Noise  Dizziness  Facial stimulation  Others |

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| **Otology** | | | |
| Variable name | | Type | Values |
| Otological diagnosis | Diagnostic | Categorical | Normal  Cholesteatoma  Intrapetrous cholesteatoma  Preauricular fistula  Tympanomastoid paraganglioma  Jugulotympanic paraganglioma  Middle/outer ear malformation  Malignant Neoplasia Temporal Bone  External ear neoplasia  Simple chronic otitis media  Otosclerosis  Chronic adhesive process  Other |
| Otoscopy | Tympanic membrane | Categorical | Complete  Subtotal drilling  Post Drilling  Previous perforation |
| Myringosclerosis | Categorical | No  Yes |
| Otorrhea | Categorical | No  Yes |
| Mucous membrane | Categorical | Normal  Edematous  inflammatory polyps |
| Effusion | Categorical | No  Yes |
| Attic pocket | Categorical | No  Yes, Controllable  Yes, Not Controllable |
| Tensile pars pocket | Categorical | No  Yes, Controllable  Yes, Not Controllable |
| Intact scutum | Categorical | No  Yes |
| Medialized malleus | Categorical | No  Yes |
| Myringostapedopexy | Categorical | No  Yes |
| Myringoincudopexy | Categorical | No  Yes |
| Blunting | Categorical | No  Yes |
| Membrane lateralization | Categorical | No  Yes |
| Pearl/Epithelial Cyst | Categorical | No  Yes |
| Cholesteatoma | Categorical | No  Yes |
| Surgical intervention | Date | Numerical | dd.mm.yyyy |
| Ear | Categorical | Right  Left |
| Type of surgery | Categorical | Apex petrosal approach  Infratemporal Fossa Approach  Stapedectomy  Preauricular fistula excision  Removal of ear tumor lesion  BAHA implementation  Cochlear implantation  Labyrinthectomy  Modified radical mastoidectomy  Myringoplasty  Subtotal Petrosectomy  Resection of tympano-mastoid neoplasia  Lateral resection of the H.T. (TBLR)  Stapes surgery review  Tympanoplasty revision  Tympanoplasty with CWD mastoidectomy  Tympanoplasty with mastoidectomy CWU/ 1st stage  Tympanoplasty with mastoidectomy CWU/ 2nd stage  Tympanoplasty without mastoidectomy  Voiding/Radical Mastoidectomy  Explantation |
| SAMEO-ATO Classification |  | It is a categorization system for mastoid and middle ear surgery. Each letter refers to an aspect of the surgery. The M refers to the action on the mastoid and the O to the action on the ossicular chain. |
| Findings | Mastoid | Categorical | Properly pneumatized  Eburnea |
| Lateral sinus | Categorical | No  Yes |
| Lateral semicircular canal | Categorical | Full  Type I erosion  Type II erosion  Type III erosion  Ossifying labyrinthitis  Absent  Not identified |
| Superior semicircular canal | Categorical | Full  Type I erosion  Type II erosion  Type III erosion  Ossifying labyrinthitis  Absent  Not identified |
| Posterior semicircular canal | Categorical | Full  Type I erosion  Type II erosion  Type III erosion  Ossifying labyrinthitis  Absent  Not identified |
| Fallopian | Categorical | Full  Dehiscent  Hernia of the facial nerve  Not identified |
| Malleus | Categorical | Normal  Handle erosion  head erosion  Absent  Medialized  Malformed |
| Incus | Categorical | Normal  Absent  body erosion  Long branch erosion  Malformed |
| Stapes | Categorical | Normal  Absence of suprastructure  Permanent  lying down  Malformed |
| Middle ear mucosa | Categorical | Normal  Pathological |
| Cholesteatoma (STAM System) | Categorical | Normal  Clarification: The STAM system is a system to mark which location is affected by cholesteatoma (five regions S1, S2, A, M and T are identified). |
| Technique | Graft | Categorical | None  Temporal fascia  Cartilage  Perichondrium  Conjunctive tissue  Fat |
| Ossicular prosthesis | Categorical | None  Cartilage on stapes  Incus-stapes cartilage interposition  Fluoroplastic Piston 4 x 0.6  Fluoroplastic Piston 4.5 x 0.6  PORP policel/plastipore  TORP polycel/plastipore  PORP titanium  TORP titanium |
| Myringoplasty | Categorical | None  Medial/Underlay  Side / Overlay  Transperforation/Inlay |
| Canaloplastylasty | Categorical | No  Yes |
| Section of the N. Chorda tympani | Categorical | No  Yes |
| Action on the footplate | Categorical | None  Platinotomy (microbur)  Platinotomy (manual microdrill)  Platinotomy (laser)  Posterior hemiplatinectomy  Total platinectomy |
| Plastic in middle ear | Categorical | No  Yes |

Table 1. Description of the SAMEO-ATO system for categorization of mastoid and middle ear surgery

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| SAMEO (Mastoid Surgery) | |
| S | Stage of the surgery (Stage) |
| S1 | Primary (First surgery) |
| S2p | Second or subsequent planned surgeries (review times) |
| S2b | Second or subsequent unplanned surgeries |
| A | Approach |
| A1 | Endoscopic transcanal |
| A2 | Microscopic transcanal |
| A3 | Endoaural 1\* |
| A4 | Betroauricular |
| 1\* A1 and A2 become A3 if widening or unloading incisions are made in the meatus. | |
| M | Mastoidectomy |
| Mx | No mastoidectomy |
| M1a | Masoidectomy with canal wall preserved (cortical mastoidectomy) |
| M1b | Masoidectomy with canal wall preserved (cortical mastoidectomy) + posterior tympanotomy |
| M2a | Mastoidectomy with superior scutum removed only (atticotomy) |
| M2b | Mastoidectomy with superior scutum and postero-superior canal wall removed (attico-antrostomy) |
| M2c | Mastoidectomy with whole canal wall removed (modified radical or radical mastoidectomy) |
| M1a+2a | Mastoidectomy with canal wall preserved + atticotomy |
| M1b+2a | Mastoidectomy with canal wall preserved + posterior tympanotomy + atticotomy |
| M3a | Subtotal Petrosectomy with removal of the otic capsula – exenteration of all mastoid and middle ear pneumatized cells |
| M3b | Subtotal Petrosectomy with removal of the otic capsula – includes labyrinthectomy |
| E | External ear canal reconstruction |
| Ex | No external ear canal reconstruction |
| E1 | Reconstruction with soft materials 2\* |
| E2 | Reconstruction with rigid materials 2\* |
| 2\* The space under the graft has not been obliterated | |
| O | Obliteration of the mastoid cavity |
| Ox | No obliteration is performed |
| O1 | Partial obliteration |
| O2 | Total obliteration |
| ATO (Middle Ear Surgery) | |
| A | Access to the middle ear |
| Ax | No bone removal from the external ear canal wall (flattening of suture line alone is still considered as Ax) |
| A1 | Widening of the posterior tympanic framework (Including curettage or reaming to  visualize the ossicular chain or hypotympanum) |
| A2 | Partial or circumferential widening of the bony canal (canaloplasty) |
| A3 | Total canalplasty with soft tissue grafting of exposed bone 3\* |
| 3\* A3 differs from A2 in the absence of the original skin of the canal. | |
| T | Tympanic membrane |
| Tx | No tympanic membrane grafting performed |
| Tn | Original tympanic membrane preserved |
| T1 | Supplement to intact tympanic membrane (reinforcement) |
| T2 | Partial tympanic membrane grafting |
| T3 | Subtotal / total tympanic membrane grafting 4\* |
| 4\* A total perforation is one in which the entire tympanic membrane and the anulus are absent. A  Subtotal perforation is one in which the membrane is absent, although the anulus is preserved. | |
| O | Ossicular chain |
| On | Intact chain preservation |
| Ox | No reconstruction performed |
| Osi | Reconstruction between incus and stapes head (IS joint repair, bone cement, prosthesis or cartilage) |
| Osm | Reconstruction between malleus and stapes head |
| Ost | Reconstruction between tympanic membrane and stapes head |
| Osd | Tympanic membrane directly repositioned onto stapes head |
| Ofi | Reconstruction between incus and stapes footplate |
| Ofm | Reconstruction between malleus and stapes footplate |
| Oft | Reconstruction between tympanic membrane and stapes footplate |
| Ofd | Tympanic membrane directly repositioned onto stapes footplate |
| Ovi | Reconstruction between incus and vestibule (including stapedotomy) |
| Ovm | Reconstruction between malleus and vestibule (malleo-stapedotomy) |
| Ovt | Reconstruction between tympanic membrane and vestibule |

Fields that are read in the platform directly **from the XML files** returned by the available devices:

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| **Audiometry** | | |
| Variable name | Type | Values |
| Ear | Categorical | Left  Right  Both |
| Frequency (Hz) | Numerical |  |
| Unmasked audiological thresholds (dB HL) | Numerical |  |
| Masked audiological thresholds (dB HL) | Numerical |  |
| Signal type | Categorical | Warble  NB  Tone |
| Conduction | Categorical | Air  Bone  Free field |
| Masking intensity (dB HL) | Numerical |  |

|  |  |  |
| --- | --- | --- |
| **Speech test/Logoaudiometry** | | |
| Variable name | Type | Values |
| Conduction | Categorical | Air  Bone  Free field |
| Masking intensity (dB HL) | Numerical |  |
| Ear | Categorical | Left  Right  Both |
| Speech intensity (dB HL) | Numerical |  |
| Total number of words repeated correctly | Numerical |  |
| Word list | Numerical |  |
| Words | String |  |
| Individual word score | Categorical | Incorrect  Correct |

|  |  |  |
| --- | --- | --- |
| **Auditory evoked potentials** | | |
| Variable name | Type | Values |
| IPSI A RAW | Numerical (vector) |  |
| IPSI B RAW | Numerical (vector) |  |
| CONTRA A RAW | Numerical (vector) |  |
| CONTRA B RAW | Numerical (vector) |  |
| Stimulation frequency (Hz) | Numerical |  |
| Gain (dB) | Numerical |  |
| High-pass filter (Hz y dB/oct) | Numerical |  |
| Low-pass filter (Hz y dB/oct) | Numerical |  |
| Number of samples | Numerical |  |
| Number of rejections | Numerical |  |
| Number of measurements | Numerical |  |
| Stimulus polarity | Categorical | Condensation  Rarefaction  Alternate |
| Stimulus type | Categorical | Tone burst  Traditional click  Ga 30 kHz  Da 30 kHz  Ba 30 kHz |
| Stimulus ratio | Numerical |  |
| Ear | Categorical | Left  Right |
| Intensity (dB HL) | Numerical |  |
| Hearing device used by the patient  during the course of the test in the left ear | Categorical | None  Hearing aid  Bone implant  Cochlear implant |
| Hearing device used by the patient  during the course of the test in the right ear | Categorical | None  Hearing aid  Bone implant  Cochlear implant |
| Contralateral masking in left ear | Categorical | No  Yes |
| Contralateral masking in the right ear | Categorical | No  Yes |
| Masking intensity (dB HL) in left ear | Numerical |  |
| Masking intensity (dB HL) in right ear | Numerical |  |
| Impedance (kΩ) | Numerical |  |