| Table E3. Sound treatment/technologies intervention and outcomes (n=5) | | | | |
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| **Author**  **Year**  **Setting** | **Population Description** | **Intervention** | **Outcome Measures** | **Results** |
| Davis,46  2007  Australia | Baseline sample: Total n = 35  Stage1 n = 16; Stage2 n = 19  Setting: Clinic  Mean age (SD): 58.5y(13.4)  Stage1: 61.3y(8.9): Stage2: 56.1y(16.2)  Gender: 74%male  Presumed etiology of tinnitus: NR  Duration of tinnitus: 11.0y (11.3)  Severity of tinnitus: moderate to severe  Number of dropouts: 1  Reasons for dropouts: NR  Audiological factors: decreased sound tolerance  Comorbidities: NR | Participants were provided with a high fidelity personal sound player with earphones and an acoustic stimulus that had been spectrally modified according to their individual audiometric profile. They were instructed to use the acoustic stimulus for at least 2 hr per day, particularly at those times when their tinnitus was usually disturbing.  Each group had equal amounts of clinician time for education, monitoring, and support.  Complete covering of perception initially, then intermittent perception (Stage2)  Comparator: intermittent perception throughout (Stage1)  Duration of treatment: 12m  Number of followups: 2,4,6 and 12 m  Duration of study: NR | TS-QOL  (TRQ, VAS)  Loudness  (VAS) | Improvements increased with time over the first 6 months of therapy, at which time 91% of all subjects across the two groups reported an improvement in tinnitus disturbance (as measured by the TRQ) of at least 40%, with a mean improvement of 65%.  Inter-group differences were not statistically significant measuring tinnitus disturbance.  Adverse events: NR |
| Dineen,82,83  1999, 1997  Australia | Baseline sample: Total n = 96  Group I: n = 28; Group ID: n = 20  Group IR: n = 28; Group IDR: n = 20  Setting: Hearing Clinic, University  Mean age (SD): 54.37y (13.86)  Gender: 66.1% male  Presumed etiology of tinnitus: NR  Duration of tinnitus: NR  Severity of tinnitus: NR  Number of dropouts:25  Group I: 10 (36%); Group ID: 7 (35%)  Group IR: 5 (18%); Group IDR: 3 (15%)  Reasons for dropouts: 12 returned questionnaires, 2 in hospital; 2 away; 5 couldn’t attend clinic; 3 tinnitus not a sufficient problem  Audiological factors: NR  Comorbidities: NR | Tinnitus management training designed to characterize common components of published tinnitus management programs  Group I: Information Only  Group ID: Information plus long-term low-level white noise (LTWN) – Starkey TM devices, 2 3- hour sessions  Group IR: Information plus relaxation therapy  Group IDR: Information plus LTWN plus relaxation  Duration of treatment: 2.5 hours per subject  Number of followups: 3m, 12m  Duration of study: NR | TS-QOL  (TRQ, VAS)  Loudness  (VAS)  G-QOL  (DSP) | Subjects who initially had low ability to cope with tinnitus and preferred a more active coping style reported significantly greater benefit from LTWN stimulation than subjects whose primary approach to coping was to regulate the emotional impact of tinnitus.  Adverse Events: NR |

| **Table E3. Sound treatment/technologies intervention and outcomes (n=5) (continued)** | | | | |
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| **Author**  **Year**  **Setting** | **Population Description** | **Intervention** | **Outcome Measures** | **Results** |
| Hiller,89  2005  Germany  Study 1 | Baseline sample: Total n = 136  Int1 (CBT+NG) n = 33; Cntrl1 (CBT only) n = 33  Setting: Outpatient Department, University  Mean age (SD):  Int1 (CBT+NG): 51.0y (13.2);  Cntrl1 (CBT only): 51.4y (10.9)  Gender: Int1 (CBT+NG): 68% male  Cntrl1 (CBT only): 41% male  Presumed etiology of tinnitus:  > 25% had sudden hearing loss  Duration of tinnitus: at least 6 months  Severity of tinnitus: chronic  Number of dropouts:  Int1 (CBT+NG)= 2; Cntrl1 (CBT only)= 4  Reasons for dropouts: external reasons; insufficient motivation; unknown  Audiological factors: NR  Comorbidities: NR | CBT: subjects score 40 or more on TQ (severe), training consists of 10 120- minute sessions. Treatment was strictly manualized.  All therapies conducted by two clinical psychologists  Int1 = CBT + Noise generator  Cntrl1 = CBT only  Duration of treatment: up to 10 weeks  Number of followups: 6, 18m  Duration of study: NR | TS-QOL  (TQ, T-Cog)  Loudness  (VAS)  Anxiety (WI) | No additive effects due to the NGs could be demonstrated.  Adverse Events: NR |
| Hiller,89  2005  Germany  Study 2 | Baseline sample: Total n=136  Int2 (TE + NG)= 34; Cntrl2 (TE only) = 36  Setting: Outpatient Department, University  Mean age (SD):  Int2 (TE + NG)= 52.5y (15.3)  Cntrl2 (TE only) = 45.2y (14.1)  Gender:  Int2 (TE + NG)= 52% male  Cntrl2 (TE only) = 61% male    Presumed etiology of tinnitus:  > 25% had sudden hearing loss  Duration of tinnitus: at least 6 months  Severity of tinnitus: chronic,  Number of dropouts:  Int2 (TE + NG)= 3; Cntrl2 (TE only) = 3  Reasons for dropouts: external reasons; insufficient motivation; unknown  Audiological factors: NR  Comorbidities: NR | Tinnitus Education (TE): patients with mild to moderate distress as scored by the TQ – abridged version of CBT 4 90-minute weekly sessions  All therapies conducted by two clinical psychologists  Int2 = TE + Noise generator  Cntrl2 = TE only  Duration of treatment: up to 4 weeks  Number of followups: 6, 18m  Duration of study: NR | TS-QOL  (TQ, T-Cog, VAS, Diary)  Loudness  (VAS)  Anxiety (WI)  G-QOL  (SCL-90R, PSDI) | No additive effects due to the NGs could be demonstrated.  Adverse Events; NR |
| Parazzini,100  2011  Italy, United States | Baseline sample: Total n=91  Interven (OE-HA) n=49;  Cntrl (SG) n=42  Setting: Tinnitus clinics in Milan, Baltimore  Mean age (SD): 38.8y (1.9)  Gender: 51/91 (56%) male  Int: 57.1%male; Cntrl: 54.7% male  Presumed etiology of tinnitus: bilateral symmetrical hearing loss  Duration of tinnitus: 69.5m (9.4)  Severity of tinnitus: NR  Number of dropouts: 10  Reasons for dropouts: NR  Audiological factors: borderline between category 1 and category 2 (according to the Jastreboff classification) with HL ≤25 dB at 2kHz and HL ≥25 dB at frequencies >2kHz  Comorbidities: No participant treated with TRT before; No previous use of hearing aids | TRT with open hearing aids (OE-HA)  Comparator: TRT with sound generator (SG)  Duration of treatment: 1 year  Number of followups: 3 (3m, 6m, 12m)  Duration of study: NR | G-QOL  (VAS)  TS-QOL  (THI)  Loudness  (subjective) | TRT was equally effective with sound generator or open ear hearing aids: they gave basically identical, statistically indistinguishable results  Adverse Events: NR |

\*Indicates the test used to measure outcomes which were selected to represent the domain in the forest plots (and subsequent SOE decisions)  
**Abbreviations:** A/E = Adverse events; AMT = active motor threshold; CBT = cognitive behavioral treatment; DSP = Derogatis Stress Profile; ENT = ear, nose and throat; grp = group; G-QOL = global quality of life; HADS = Hospital Anxiety and Depression Scale; intervention = Interven; month = month; N/A = not applicable; NR = not reported; QOL = quality of life; RCT = randomized Controlled trial; SD = standard deviation; TCT = Tinnitus Coping Therapy; THI = Tinnitus Handicap Inventory; TMJ = temporal mandibular joint; TRQ = Tinnitus Reaction Questionnaire; TS = tinnitus specific; TSQ = Tinnitus Severity Questionnaire; VAS = visual analog scale; week = week; WI = Whiteley Index; WLC = wait list Cntrl; yr = year