

## Figures

**Figure1**

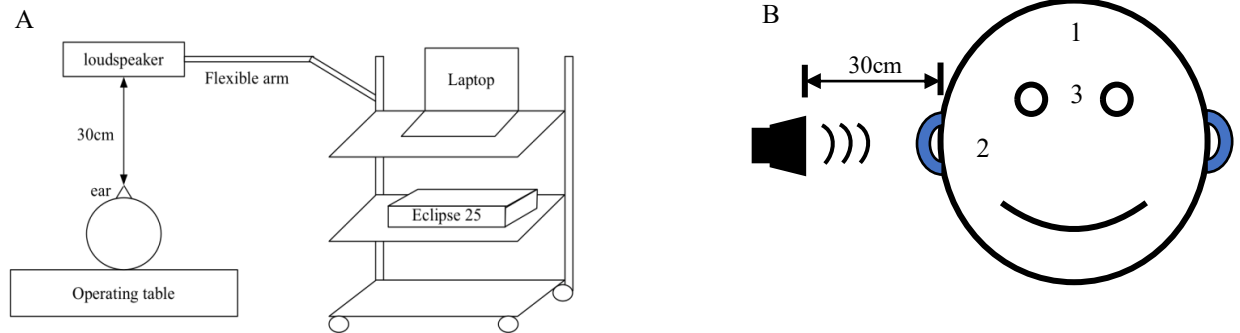
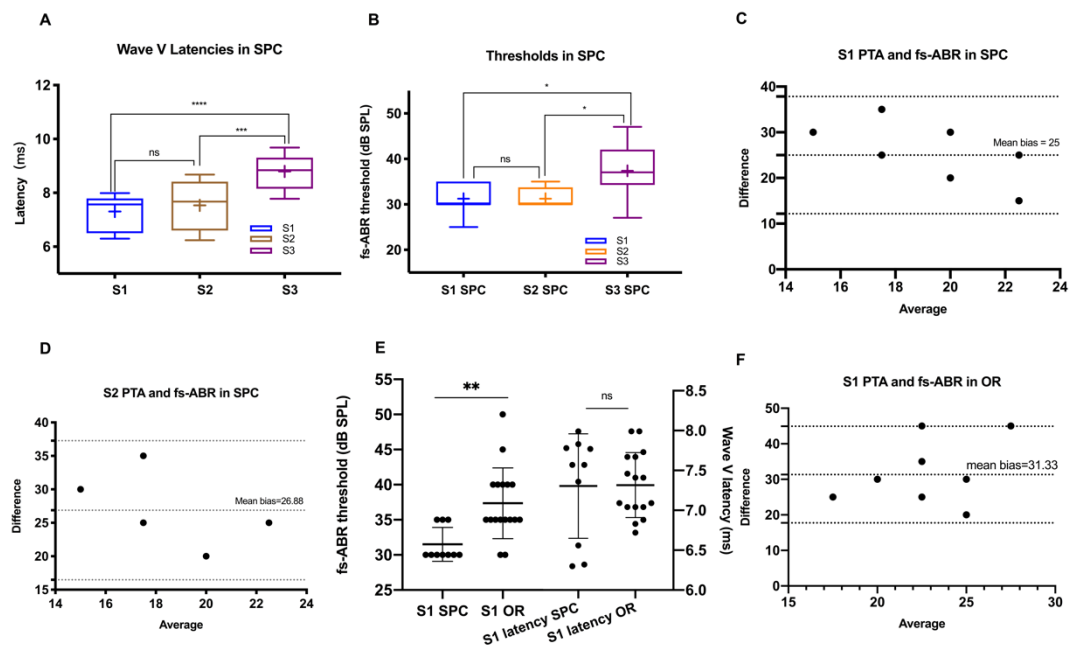


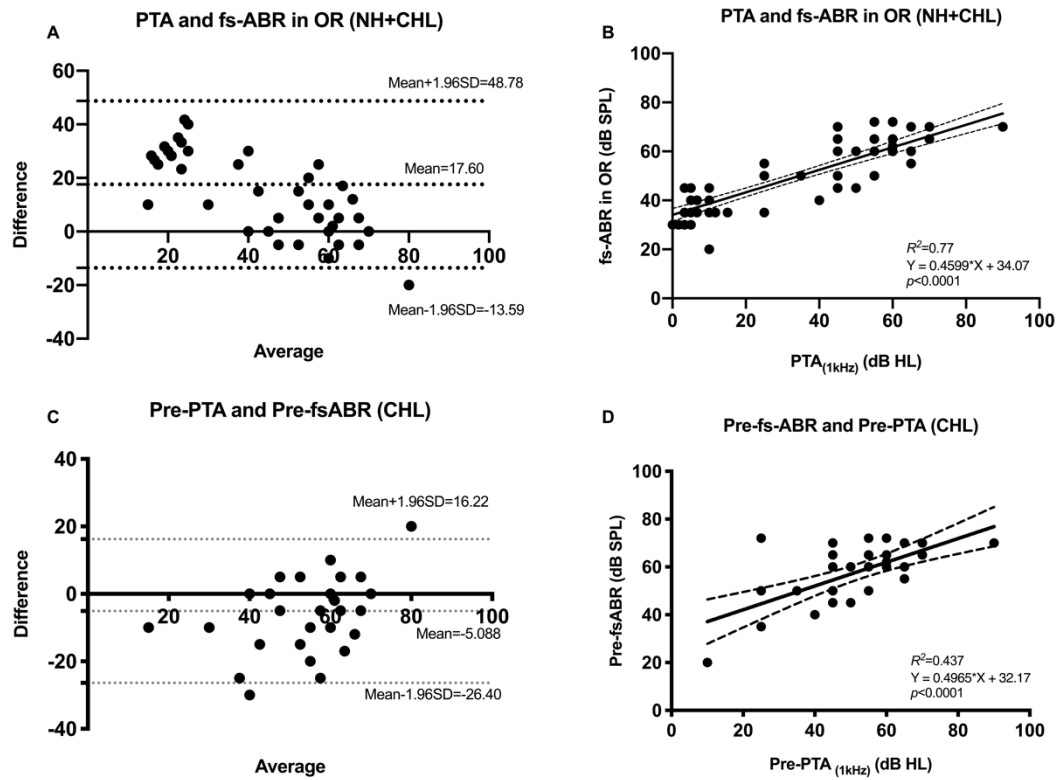
Figure1 A. Schematic map of the custom-made removable cart. B. Schematic map of The loudspeaker was 30cm away from the external ear canal. Number1, 2, 3 represent the places of record, reference and ground electrodes separately.

**Figure2**



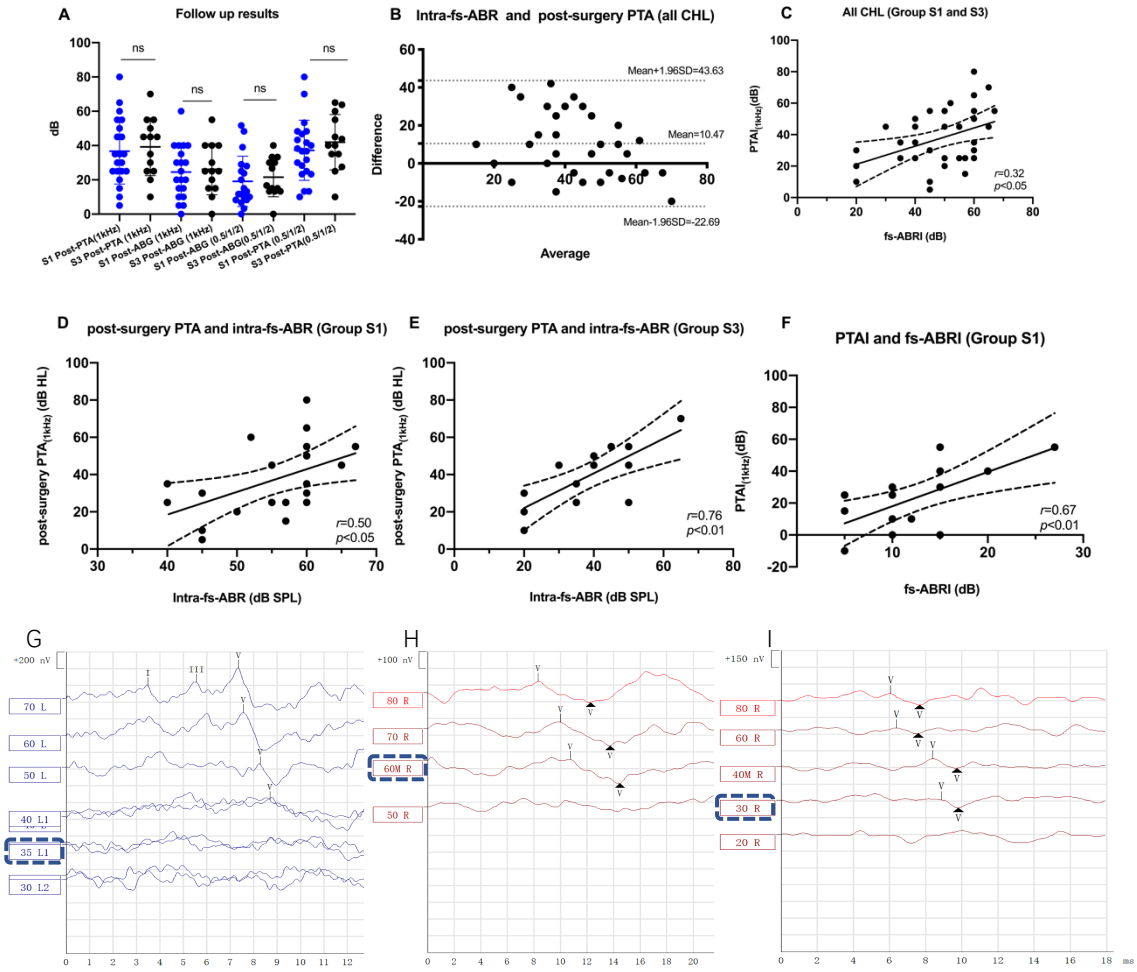
**Figure2:** Comparison of different parameters in sound-proof chamber (SPC) between stimuli. A showed the analysis of wave V latencies of S1, S2 and S3; B showed the analysis of fs-ABR thresholds of S1, S2 and S3; C showed the Bland-Altman analysis between PTA and fs-ABR of S1 in SPC; D showed the Bland-Altman analysis between PTA and fs-ABR of S2 in SPC; D showed the wave V latency and fs-ABR threshold for S1 in operating room (OR) and SPC; F showed the Bland-Altman analysis between PTA and fs-ABR of S1 in OR. \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , \*\*\*\* $p < 0.0001$ , ns=none significance.

**Figure3**



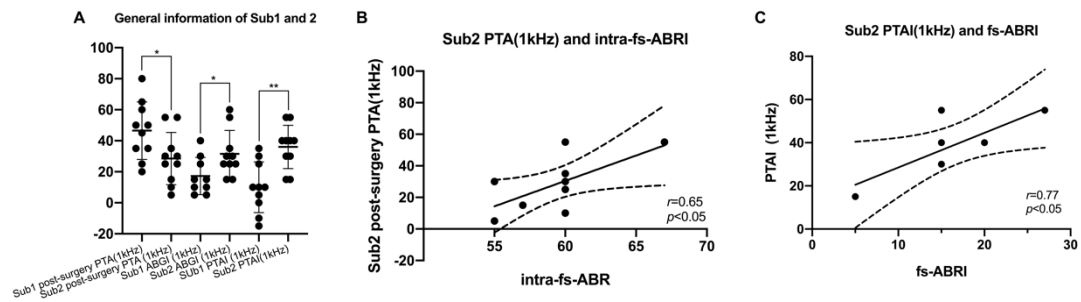
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**Figure4**



**Figure4:** Follow up results and intra-fs-ABR. A showed the general post-surgery PTA results of group S1 and S3. A showed the post-surgery general situation of all the conductive hearing loss (CHL) subjects. B showed the Bland-Altman analysis between post-surgery PTA and intra-fs-ABR for all CHL subjects. C showed the linear correlation between post-surgery PTA and intra-fs-ABR for all CHL subjects. D showed the linear correlation between post-surgery PTA and intra-fsABR in group S1. E showed the linear correlation between post-surgery PTA and intra-fsABR in group S3. F showed the linear correlation between PTA improvement (PTAI) and fs-ABR improvement (fs-ABRI) in group S1. G showed the ABR waveform of normal hearing subject in the operating room, the hearing threshold was 35 dB SPL. H and I showed the ABR waveform of a CHL subject pre- and intra-operative monitoring. H showed the pre-operative hearing test after anesthesia but before the surgery, the threshold is 60dB SPL; I showed the intra-operative hearing test right after the ossicular reconstruction with the threshold of 30dB SPL. \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , \*\*\*\* $p < 0.0001$ , ns=none significance.

**Figure5**



**Figure5:** Eustachian tube function score (ETS) analysis between Sub1 and Sub2 in S1. A showed the general post-surgery information of PTA, PTA improvement (PTAI) and ABG improvement (ABGI) between Sub1 and Sub2. B showed the linear relation between intra-fs-ABR and post-surgery PTA<sub>(1kHz)</sub> of Sub2. C showed the linear relation between fs-ABRI and PTAI of Sub2. \* $p<0.05$ , \*\* $p<0.01$ , \*\*\* $p<0.001$ , \*\*\*\* $p<0.0001$ , ns=none significance.