

Zinc to treat tinnitus in the elderly

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There is widespread belief and some evidence to indicate that zinc can successfully treat tinnitus. Zinc influences the biophysiological function of neural membranes and transmission. In the cochlea, levels of zinc are higher than any other regions of the body. Zinc deficiency is more likely in the elderly. The primary objective of this application is to establish its effectiveness for tinnitus treatment.

We propose a prospective double-blind randomised cross-over design. This study will be unique among other studies exploring the effectiveness of zinc to treat tinnitus because we will have appropriate controls and validated measurements. Additionally, we will have sufficient subjects to provide a definitive determination of zincs efficacy and sufficient subjects to carefully evaluate factors that might contribute to success. This includes: blood levels of zinc, age, depression, hearing levels and duration of tinnitus. An unique attribute of the definitive study is that we will validate the production of the zinc and follow subjects for a sufficient period of time. One hundred and sixty subjects will be randomly assigned to a group receiving zinc sulphate at 50 mg daily or a placebo. After 4 months and a 1-month wash-out, the subjects will be crossed over to the other group. Benefit will be determined with an equally-weighted linear combination of three validated tinnitus handicap questionnaires and two measures of the tinnitus magnitude (loudness and the minimum noise level required to mask the tinnitus.)

We hypothesize that patients will show a significant decrement in their tinnitus after taking zinc. If successful, it will have an immediate major impact on the treatment of tinnitus. If unsuccessful, researchers, clinicians and patients will be able to direct their attention to other possible treatments.

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