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Amplified Stethoscope Bullet Points – Quick Reference Guide

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Configuring a hearing instrument with an amplified stethoscope comes with inherent challenges. Currently, there is no magic bullet offering an easy, straightforward solution. Furthermore, the two configuration options offering the most promise in terms of a working solution are either 1) not desired (i.e. remove hearing instruments during auscultation) or 2) rejected due to undesirable aesthetics (i.e. use of over-sized headphones during auscultation). The following is a quick reference guide on amplified stethoscopes and hearing instruments.

Things to Know and Appreciate

- hearing instruments and ear pieces of traditional amplified stethoscope compete for the same ear canal space, often requiring alternative configurations;
- heart sounds essential for differential diagnosis (70–120 Hz) are lower than the low frequency setting limits of hearing instruments (100–250 Hz);
- basic physics of sound precludes configuring an amplified stethoscope with and open-fit hearing instrument via streamer because an open ear canal allows low frequencies to escape; therefore, over-sized headphones are necessary but something the user does not want to do;
- currently, a Bluetooth amplified stethoscope specifically designed to stream auscultation directly to hearing aids in real time is NOT available;
- the biggest challenge in offering amplified stethoscope solutions to hearing instrument users is establishing realistic expectations as the hearing industry currently does not offer appealing or straight-forward solutions to this need.

Options as a Function of Hearing Instrument

- **Custom hearing instruments, no streamer**
  - Amplified stethoscope with pair of headphones
  - Stethomate tips (adapters for stethoscope ear pieces). NOTE: low success rate with common complaints of discomfort and/or inability to line up sound port of hearing instrument with opening of the stethomate tip
  - Take hearing instruments out during auscultation
- **Open-fit or RIC instrument, no streamer**
  - Try traditional stethoscope while wearing hearing instruments to see if configuration

tolerable. If comfortable fit, proceed with hearing instrument programming as needed
    - Try Think Labs One (TL-One) amplified stethoscope while wearing hearing instruments using earbuds included in packaging. If comfortable fit, proceed with hearing instrument programming as needed.
    - Try TL-One or E-Scope II with over-sized headphones while wearing hearing instruments
    - Take hearing instruments out during auscultation
- **Streamer**
    - True open-fit situation
    - Configuration with streamer **NOT** recommended
    - Try TL-One with packaged insert earbuds
    - Try TL-One or E-Scope II with over-sized headphones
    - Take hearing instruments out during auscultation
    - Custom or occluded BTE situation
    - TL-One or E-Scope II with over-sized headphones
- **MFi Hearing instruments**
    - Eko-Core, an amplified stethoscope specifically designed to stream auscultation recordings directly to Bluetooth enabled hearing instruments, theoretically should work. NOTE: streaming in real time is not possible per the manufacturer