

What to Consider When Considering A Telehealth Stethoscope: A Buyer's Guide

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Purchasing a telehealth stethoscope can be a challenging process if you're not sure what you're looking for or how to set up a system to maximize its capabilities. This document is intended as a brand agnostic guide to highlight potentially important considerations when making that selection.

UNDERSTAND YOUR WORKFLOW

The stethoscope is usually one piece of a larger system. Choosing which stethoscope is right for you will depend on decisions and workflows that are already in place or need to be in place.

SOUND SUPPRESSION

Most videoconferencing systems select for the frequencies of human voice and suppress all others. The system should have a mechanism to allow for quality audio transmission, such as a second audio channel or transmission allowance of stethoscope critical frequencies.

AMPLIFICATION

Does the stethoscope amplify all frequencies, including ambient noise or specific heart, lung, bowel frequencies?

SYSTEM CONSIDERATIONS

- Use Case
- Workflow
- Licensing
- Support
- Warranty
- Training
- Cost
- Privacy /Security
- Compatibility
- Liability
- Reimbursement
- IT

THE STETHOSCOPE UTILIZATION ENVIRONMENT

Patient/Presenter Factors: Consider intuitive use, durability, noise reduction technology, amplification capabilities. Are you able to listen and transmit simultaneously?

Stethoscope: Power supply, power draw, battery life, auto shut-off, frequency range, frequency control, chest piece size, cost, support, warranties. On-device versus on-screen controls.

Sending Connection: Bluetooth vs Wifi vs wired. If wired, USB vs audio jack. Security and interference of wireless.

Sending System/Software: Videoconferencing, EHR and Operating System Compatibilities. Subscription software required? Second audio.

Internet: Bandwidth to account for data volume. Security of data.

Receiving System/Software: Any far-end control of device? Audio quality controls. Sound card of computer. Recording of data (on-device EHR, none).

Receiving Connection: Wired vs wireless. Security and interference of connection. Quality and insulation of any wiring.

Listening: High quality headphones with appropriate frequency range. Noise cancellation of ambient sounds. Volume controls.

Listener Factors: Knowledge of device/software to direct presenter/patient. Environmental sounds/interference.

POWER SUPPLY

Batteries, rechargeable lithium-ion, USB powered. Do you have backup batteries? Don't forget to plug it in at night.

WIRED VS WIRELESS

Is being tethered to the telemedicine cart or kit okay or do you need freedom of motion? Dropped wireless connections happen. Are they disruptions easily surmountable?

CONTROLS

Who is in control and where are those controls? Is it the patient/presenter, the provider or both? Are the controls on the device or on-screen? How easy is it to adjust frequency modes?

LISTENING

Computer speakers and limited frequency range earbuds/headset will hamper quality sound. Consider listening device a key feature of this decision.

Stethoscope Features to Consider

Power Supply

Replaceable batteries,
USB, rechargeable

Power Draw

Affects utilization of USB
hubs and longevity of back-up
power supplies

Battery Life

"On the go" longevity

Auto Shut-Off

Affects battery life

Volume Control

On-device vs on-screen

Frequency Range

Affects range of picking up
heart, lung, bowel sounds

Frequency Control

On-device or on-screen

Chest Piece Size

Adult, Peds, Variable

Body/Casing Material

Metal, Plastic, Rubber, Combo...

Audio-Throughput Mechanism

Some software transmits the
audio signal through the audio
channel of the video conference
platform, Others transmit the
audio signal on a separate channel.

Analog vs Digital

Analog out vs Digital Conversion

Listening Options

Traditional stethoscope binaural
earpiece, headphone/set, Bluetooth

Digital Sampling Rate

Affects sound quality

Amplification

Decibel range. How does it amplify?
All frequencies or just select?

Sanitization

What cleaning methods are safe
and proven on this device?

Sound Quality

Comparison of direct through
device vs over internet

Plug and Play vs Software Based

UX/UI and workflow considerations

Videoconferencing Compatibility

How does it interact with the
software that you are using?

Noise Reduction Technology

Can affect sound quality of
transmitted signal

Method of Information Relay

On-device screen, computer
screen, LED indicators, text size

Synchronous vs Asynchronous

Affects type of program it can
be deployed in

Recording Capabilities

On-device, to app, on computer,
cloud, third-party software
storage (fees)

Integrations API/SDK

EHR integration, telemedicine
software integrations

OS Compatibility

Mac, Windows, etc.

Contracting

Length of contract if subscription
model? Is a Business Associate
License needed?

Subscription vs One-time Purchase

Short-term vs ongoing costs.
Additional features in a
subscription model.

Warranties

Battery issues, breakage,
wear and tear

Cost

Up-front, on-going, intermittent

Support

Methodology, response rate

Accessories

Eartips, cradles, holders, extra
diaphragm, etc.

Security

Wired vs Wireless. Hacking
wireless stream. How is the data
stream secured?

Data Ownership

Who owns the data if stored in
third-party vendor servers?

Liability

Has the device been validated to
be clinically accurate? Consider
liability in situations of device
failure or insufficient data to
make accurate diagnoses.

Reimbursement

Do payers cover for the use
of this device?