

Computerized Medical Technology AB

"COPE" Stethoscope



History

The stethoscope is not only an important diagnostic tool, but has become a symbol of the medical profession in the years since its inception in 1816. The invention of the stethoscope occurred almost two hundred years ago when a physician identified that higher sound quality occurred when a wooden tube with an earpiece was placed to a patient's chest and caused sounds to be amplified.

The basic stethoscope design hasn't changed since 1865, in spite of the fact that technology has since been developed that would allow the stethoscope to provide information that would have been unthinkable previously. Information such as:

- ⌚ Amplification, filtering and isolation of sounds
- ⌚ Noise reduction
- ⌚ Recording and storage for later playback
- ⌚ Comparison between normal and abnormal results
- ⌚ Consultation between doctors at different locations

These features would allow for more detailed evaluation and consultation, remote diagnosis and teaching. The COPE stethoscope was developed to eliminate the traditional stethoscope's deficiencies and enable functionality for broadened use.

Weaknesses in the use of the Traditional Stethoscope

A study published in the Sept. 3, 1997, issue of The Journal of

The COPE stethoscope has the following key features:

- ⌚ Built-in advanced amplification and speaker construction
- ⌚ Patented hydro-phone technology
- ⌚ Different listening modes to facilitate sound analysis
- ⌚ Digitally recorded and stored content

the American Medical Association found that of 453 medical students, interns and residents, the participants were able to recognize only 20 percent of 12 common heart problems that can be detected with a stethoscope. Study authors called this rate "disturbingly low." The ability to detect heart problems with a stethoscope didn't improve with experience; third-year residents were no better than first-year residents. To compensate for their lack of stethoscope skills, experts say, physicians are now quick to order high-tech heart tests such as the echocardiograph that can cost up to \$1,000.

The Solution

The patented COPE stethoscope is a hand-held sound monitor device that can be used as a complement to or replacement for the traditional stethoscope, with no special training required. The COPE stethoscope has built-in advanced amplification and speaker construction. The device uses patented hydro-phone technology, minimizing sound losses. Each session with a patient can be digitally recorded and stored for later analysis. The display allows the users to easily and quickly switch between different listening modes to facilitate sound analysis.

In addition, future functions include tools to grade and warn about abnormalities. Special algorithms will indicate the existence of specific abnormalities, helping the user in the process of auscultation. This feature will assist doctors in correctly diagnosing and providing appropriate treatments to patients.

Very advanced microelectronics and software modules have allowed us to create a tool with functionality and features far superior to any device existing on the market today.

Opportunity

Today stethoscopes are typically the property of the physician, often purchased during medical school and lasting for between 10 and 40 years. Most other diagnostic tools are owned by medical institutions and replaced with new technology at regular intervals. The COPE device is in the price range of a mobile phone.

There is no special training required - the COPE stethoscope can be used by any medical personnel that currently use a tradi-

tional stethoscope. The product has several advantages compared to the traditional stethoscope. The COPE stethoscope not only offers increased audibility, but also allows for consultation between doctors. With the aid of the COPE stethoscope, both doctors can hear sounds simultaneously.

The COPE stethoscope is ideal for:

- ⌚ Consultation between doctors
- ⌚ Physicians teaching students
- ⌚ Users with reduced hearing

The product can also be used to streamline workflow within a medical organization. For example, a nurse can perform the initial auscultation and provide the doctor with a recording prior to meeting with the patient. This process has already taken place for the measurement of blood pressure and other parts of the medical exam.

Market Opportunity

- ⌚ According to the Swedish Medical Association, there were 29,400 physicians in Sweden in 2005.
- ⌚ The Journal of the American Medical Association published a study in Oct. 2009 estimating that the United States has 788,000 active doctors.

There are additional market opportunities beyond hospital and private practice physicians.

The COPE stethoscope can also be used at the following locations:

- ⌚ Educational institutions
- ⌚ Urgent Care facilities
- ⌚ Emergency room and ambulatory vehicles
- ⌚ Homecare

Summary

The COPE stethoscope is a new technology that is ready to be introduced to the market. Technology has advanced to the point where this diagnostic tool will enable doctors to increase accurate diagnoses, consult with one another from remote locations, replay sounds repeatedly when necessary, teach students more easily and hear heart sounds more clearly.

COPE stethoscope developers are finalizing a functional prototype and are looking for a partner with technical, medical and financial expertise as they bring this product to market.

According to the World Health Organization, the U.S. ranks second in terms of the number of physicians. China is first.