

3M Introduces Littmann Electronic Stethoscope Model 3000 with Breakthrough Ambient Noise Reduction (ANR) Technology; Designed to Pick Up Difficult-To-Hear Heart and Lung Sounds While Offering Superior Acoustic Sensitivity

3M today announced the launch of the Littmann Electronic Stethoscope Model 3000 featuring amplification and proprietary ambient noise reduction (ANR) technology. The new Littmann Model 3000 has been proven to reduce ambient noise by an average of 75 percent without filtering out critical body sounds and offers amplification up to 18 times greater than the best acoustic stethoscope. This breakthrough technology represents a key milestone in the area of acoustic sensitivity that can be critical to proper clinical diagnosis and quality auscultation.

In recent controlled experiments, clinicians using the Littmann Model 3000 have picked up difficult-to-hear heart and lung sounds, while missing or misidentifying those same sounds with an acoustic (non-electronic) cardiology-grade stethoscope. In a multi-center clinical study, doctors rated the Littmann Model 3000 significantly better than traditional, nonelectronic stethoscopes when comparing the tone and clarity of heart, lung, blood vessel and bowels sounds.

Eighty-two percent of cardiologists in a controlled experiment indicated it was easier to detect an aortic regurgitation (Grade 1 or 2) with the Littmann Model 3000 than with an acoustic cardiology-type stethoscope of traditional design(1). In that same experiment, cardiologists missed a Grade 2 aortic regurgitation murmur five times more often with the acoustic stethoscope than they did with the Model 3000.

In another experiment, 90 percent of critical care nurses, who were asked to identify prerecorded normal and abnormal lung sounds, indicated that it was easier to detect abnormal sounds with the Littmann Model 3000 than with an acoustic cardiology-type stethoscope of traditional design(2). In that same experiment, critical care nurses misidentified whether a lung sound was normal or abnormal two times more often with the acoustic stethoscope than they did with the Model 3000.

"For more than 40 years, Littmann has been the stethoscope doctors, nurses and other healthcare professionals have used to learn auscultation skills," said Ned Hancock, product manager. "3M is proud to take this trusted diagnostic tool to the next level with the Littmann Model 3000, which we believe will increase clinicians' ability to pick up sounds that are difficult to hear, even in a noisy environment."

Ambient Noise: a Hindrance to Diagnosis

Health care professionals have long been in need of a solution to the problem of ambient noise, as it can mask some body sounds making diagnosis more difficult. Ambient noise includes human voices, medical equipment and other environmental sounds. Importantly, ambient noise is not limited to the air; it can travel through the patient's body as well. This noise makes it more difficult to hear the body sounds of interest.

Previous attempts to reduce ambient noise have involved amplification or filtering. Unfortunately, when important body sounds were amplified, so was ambient noise. And, efforts to filter ambient noise may result in the filtering out of important body sounds.

Today's Technology Results in a Better Diagnostic Tool

Reducing ambient room noise requires eliminating the noise when it is in the air and when it travels through the patient's body. ANR technology successfully addresses this issue without filtering out important sounds. Noise from the room enters the stethoscope through a thin gap in the chestpiece. Once inside, this noise meets the ambient noise that has traveled through the patient's body and entered the chestpiece through the diaphragm. The ambient noise, traveling the two pathways, cancels itself out, leaving only the heart and lung sounds clinicians need to hear.

Significantly, ANR technology does not filter out important body sounds, allowing clinicians to gather the information they need to make the diagnosis. Presenting clinicians with a new standard in auscultation equipped with ANR technology, the Model 3000 builds upon the trusted, dependable Littmann brand name.

About 3M Health Care

3M Health Care, the largest of seven major 3M business segments, is dedicated to improving the practice, delivery and outcome of patient care. 3M Health Care is a leading provider of solutions for medical, dental, pharmaceutical, health information systems and personal care markets. Key brands from the 3M Medical Division include: Tegaderm, Steri-Strip, Red Dot, Littmann, Micropore, Attest, and Ioban.

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(1) 100 cardiologists listened to prerecorded heart sounds with and without Grade I or Grade II aortic regurgitation murmurs, presented in random order in the presence of 70-75 dB ambient noise, using a 3M Littmann Electronic Stethoscope Model 3000 and an acoustic (nonelectronic) high-end, cardiology-type stethoscope.

(2) 137 critical care nurses listened to, and were asked to identify, prerecorded normal and abnormal lung sounds (with crackles, wheezes or rhonchi), presented in the presence of 70-75 dB ambient noise. They listened with both the Littmann electronic stethoscope Model 3000 and an acoustic (non-electronic) high-end cardiology-type stethoscope.

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