

COMPANY ANNOUNCEMENT

KarmelSonix Expands its Patent Portfolio – New US Patent Allowed for Airway Patency Technology

20th April 2010: The Directors of KarmelSonix Limited (ASX: KSX) and its fully-owned subsidiary PulmoSonix Pty Limited are pleased to announce the allowance of a new US Patent 11/107,999 titled “Method and Apparatus for Determining Conditions of Biological Tissues”. This patent claims priority back to April of 2000 and was assigned to PulmoSonix by the inventors.

This patent covers the all important field of non-invasive monitoring of the patency (openness) of the lung airways by using sound transmission. The basic technique monitors the amount of sound that is transmitted from a sound source applied to the patient’s mouth or nose (e.g. by a facemask) to sensors (microphones) placed on the bottom of the neck and on the chest. If the airways are narrowed, the transmitted sound is attenuated (reduced), much in the same way a camera aperture determines the light exposure.

This invention is particularly relevant to detection or partial obstruction of the upper airways during sleep and to the monitoring of patients with Asthma, COPD and related conditions such as the elusive “Vocal Cord Dysfunction (VCD)”. [To read more on VCD see <http://www.nationaljewish.org/healthinfo/conditions/vcd/index.aspx> - also available via the Technology tab on the KSX website.]

The Abstract of the allowed patent is copied below:

This detailed patent (25 figures, 26 pages, >50 claims) provides comprehensive Intellectual Property protection that is essential for future expansion of KarmelSonix’ product line to the field of upper airway obstruction and its treatment.

This technology is directly applicable to the vast area of Obstructive Sleep Apnoea (OSA) which affects approximately 4% of the adult male population and 2% of the adult female population.

This patent does not only facilitate the use of sound transmission methods for diagnosis of OSA, an area currently dominated by companies who specialize in PolySomnoGraphy. [To read more on Polysomnography see <http://en.wikipedia.org/wiki/Polysomnography> - also available via the Technology

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ABSTRACT

Airway monitoring apparatus **30** includes a driver **6** for applying sound in the audible frequency range to the airway of a subject and a detector **7** for monitoring the response of the airway, e.g. by detecting transmitted sound signal components and/or reflected sound signal components. Variations in the detected sound signal, e.g. energy, due to attenuation of the signal, give an indication of the state of the airway, e.g. airway patency, and can be used to monitor sleep-disordered breathing events, such as apnea and hypopnea, and to provide a breathing event index, e.g. AHI. The apparatus may provide servo-control for a respiratory assist device, such as a positive airway pressure device, so as to provide an appropriate pressure level setting. It may allow for home use of such devices and for home titration. It may also assist in discriminating central and obstructive breathing events, and in providing a measure of airway resistance.



“Wheeze Rate – A New Paradigm in Asthma Management”

tab on the KSX website] such as Embla, Care Fusion (Viasys), Philips-Respironics, Nihon kohden, Compumedics, Somnomedics, and others; but also for directing therapy through optimization of the precise pressure applied to the airways of OSA patients with CPAP therapy, the main product of companies such as ResMed, Philips-Respironics, Care Fusion, De Vilbiss and other.

Alyssa Grabb, patent attorney, Partner of Phillips Ormonde Fitzpatrick and head of the firm’s Medical Technology team says: *“This patent provides broad protection for the Pulmosonix airway patency apparatus - a rare achievement when prosecuting applications before the United States Patent and Trade Mark Office and a testament to the level of innovation involved in this technology”*. “This US patent will grant Pulmosonix exclusivity in the United States in respect of its airway monitoring device which uses proprietary acoustic transmission and analysis technology to monitor airway patency”.

“This patent expands the commercial scope of KarmelSonix to applications of Active Acoustics in respiratory medicine in general and in sleep medicine in particular”, commented Prof. Noam Gavriely, KarmelSonix’ CEO and CMO. “This technology has already been implemented and tested clinically in a pre-market prototype (The Airway Clear) with excellent correlation with traditional Polysomnography (PSG) methods. The extent and comprehensiveness of this new patent enhances the IP position of KarmelSonix as a leading innovator and enhances its commercial standing vis-a-vis potential strategic partners”.

Refer to the Technology tab via KSX website to view the full patent.

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About KarmelSonix : KarmelSonix Ltd focuses on supplying innovative non-invasive acoustic tools for disease management of asthma and related pulmonary disorders. Asthma affects 6-16% of the population in developed countries with a cost exceeding \$US15 billion in the US alone.

Acoustic Asthma Management is a breakthrough in monitoring of the asthmatic patient of all ages, including the very young, very old and others who cannot perform currently available tests. The technology that comes from extensive R&D and clinical validation in the US, Israel and Australia, facilitate continuous monitoring of patients at home, in the ICU and even during sleep. The company is now focussing its efforts on early commercialization of its products particularly in the AsiaPac, European and North American markets.

“Wheeze Rate – A New Paradigm in Asthma Management”

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