



INSIDE

'Ain't no Mountain High Enough'

Peninsula Private Sleep Laboratory revisits sleep at high altitude.

Researchers from Australia's Peninsula Private Sleep Laboratory had previously visited the foothills of Mount Everest in Nepal to study sleep and breathing control at high altitude in 1998 and 1999 (research published in *Respirology* 2004). This year in March, two researchers from PPSL joined a Canadian Everest expedition using Compumedics equipment to address some new questions about the control of breathing during sleep at high altitude. This time they aimed to look at the inter-relationship between periodic breathing at high altitude with changes in ventilatory responsiveness and cerebral blood flow compared to sea level.



Nocturnal study of cerebral blood flow during polysomnography with non-invasive haemodynamic measurements at 3,840 metres.

The Canadians were a diverse group predominantly from Eastern Canada who were aiming to assist a well-known sports enthusiast and academic, Dr Sean Egan from the University of Ottawa, to be the oldest Canadian to summit Mount Everest. In addition they aimed to raise funds for orphanages in Kathmandu and Canada. Among the expedition members were co-investigators from the University of Calgary and a local Nepali doctor who was also a co-investigator. The Australian researchers brought expertise in sleep research to the expedition and the Canadians brought expertise in the measurement and analysis of cerebral blood flow.

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'Ain't no Mountain High Enough'



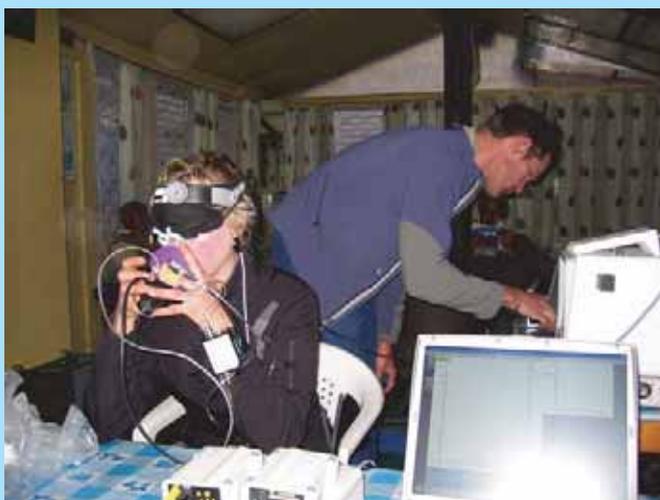
Team members of the world's highest ice hockey game

The experiments were approved by ethics committees in Sydney, Calgary and Nepal. The subjects consisted of the investigators as well as some of the Canadian expedition members. Baseline measurements were made in Kathmandu (1,400 metres above sea level). They consisted of ventilatory responses to hypoxia and hypercapnia using novel rebreathing techniques, polysomnography (PSG) using the Compumedics PS2 portable system, measurement of cerebral blood flow by transcranial pulse doppler technique, non invasive haemodynamic measurements, and arterial blood gas analysis.



Base Camp

The expedition then flew to Lukla (2,800 metres) and trekked to Mount Everest Base camp (5,300 metres) following a standard trekking route and timetable over ten days. Repeat data collection was attempted at Base camp, but although the Compumedics PS2 equipment worked normally, the ventilatory response equipment would not work at such a high altitude (low temperature and low barometric pressure). After participating in the World's Highest Ice Hockey Game at Base camp (a fund-raising activity), the researchers descended to Khundle (3,840 metres) and made their repeat measurements at that altitude. All of the equipment worked satisfactorily at that altitude and good data has been obtained, although not yet fully analysed.



Ventilatory response testing, awake

Most of the group returned to Kathmandu by the same route. A subgroup stayed behind to assist Dr. Egan with his ascent attempt. Sadly, an otherwise successful and enjoyable expedition was marred by the tragic death of Dr. Egan near Base camp after our members had returned to Sydney. The Canadians have created the "Ad Astra Foundation" in Dr Egan's memory, which will continue the initial charitable fund raising aims of the expedition.

Edited from original article by K R Burgess

Sean Egan - Ad Astra website:
<http://www.adastra-aimhigh.com>

NEW PRODUCT NEWS

Source 5

Source 5 integrates functional (EEG or MEG) and anatomical imaging modalities (MRI, fMRI or CT) in a single software package. By combining reconstructed electrical activity in the brain with anatomical or functional images, **Source 5** provides a powerful method for localising the sources of such activity. **Source 5** uses the physical anatomy from MR or CT to provide overlay of the reconstruction results with orthogonal slices of the head and brain, pinpointing the site of activity. **Source 5** uses spherical (EEG and MEG) or pre-computed, standardised, realistically shaped volume conductor models (EEG) for source analysis.

Source 5 can be used on PCs and laptops running Windows 2000 or XP. It is aimed at functional mapping and diagnosis of brain activity, initially in a research context. However, the functionality offered and the evolutionary nature of **Source 5** also makes it suitable for wider application.

Current density reconstructions, deviation scans, and the generation of individual realistic volume conductor models are made available in Compumedics Neuroscan's premiere multi-modal neuro-imaging software, **Curry 5**.



Clinical Quik-Cap for EEG and PSG

We've utilised our 8+ years of experience in building quality electrode caps for research and clinical EEG applications and created a versatile, cost-effective tool that helps enhance all aspects of sleep lab productivity. Our new **Quik-Cap PSG** is designed to provide faster, more consistent electrode applications with easy clean-up thereby maximising lab results and return on investment. **Quik-Cap PSG** offers proven time savings and higher patient compliance. **We also have Quik-Cap for clinical EEG. Contact us for more information.**

Access SDK

Researchers using Compumedics Neuroscan products have always pushed the boundaries of science and technology and we have always supported their efforts. Our new SDK (Software Developers Kit) offers a completely new level of access. Now advanced users have the freedom to directly access our hardware to obtain physiological data in a format that interacts with custom software you design and control. With **Access SDK** we offer the option to get the data you need without requiring the additional expense of our renowned SCAN or ProFusion software packages.

Visit: www.neuroscan.com for more information on Neuroscan products



Compumedics now the sleep diagnostic solution provider of choice in Taiwan

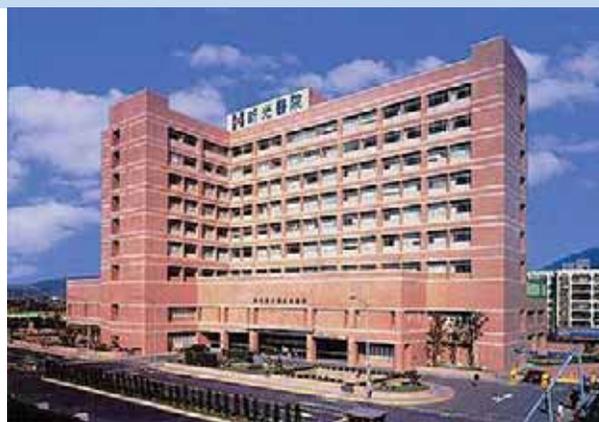


Compumedics' patience and diligence, working closely with our local distributor, BioSystems Taiwan, has paid off with the granting of regulatory approval in May 2006. The milestone event was immediately followed by an enthusiastic expression of interest for the provision of state-of-the-art sleep systems for the new sleep facility at the Shin Kong Mu Ho-Su Memorial Hospital in Taipei.

The Shin Kong hospital, established in September 2002 is a 600 bed private facility...

The sleep facility's objective is to provide the very best quality sleep diagnostics and treatment of the patients with world leading technology. The hospital's criteria was simple; to provide an advanced new, world-class testing facility for Taiwan. The specifications were tendered publicly and competitive bids were submitted from Compumedics and other major competitors such as Tyco, Respironics and Medcare, Compumedics won the tender with the innovative Wireless **Siesta** PSG system.

Officially opened on 6th June 2006, the Sleep Centre at the Shin Kong Mu Ho-Su Memorial Hospital has 15 sleep beds – all equipped with Siesta systems making this facility the single largest sleep laboratory in Taiwan. Due to the portability and versatility of the Siesta wireless system, this sleep lab provides a multi-purpose service for the hospital. During the day, these rooms are used as recovery facilities for their cosmetic surgery unit; during the night Taiwan's most advanced sleep laboratory emerges thus doubling the utility and revenue generation of these rooms in the hospital.



OCT-06	DATE	AREA	PLACE	WEBSITE
21st Annual Scientific Meeting of Epilepsy Society of Australia	5 - 7 Oct	NS	Melbourne, Australia	www.icms.com.au/epilepsy2006
19th Annual Scientific Meetings of Australian Sleep Association & Australian Sleep Technologists Association	5 - 7 Oct	S	Perth, Australia	www.sleepaus.on.net
14th Annual Convention for DGSM	5 - 7 Oct	NS	Regensburg, Germany	www.medbo.de/608.0
Institute for Advanced Medical Education (IAME)	6 - 8 Oct	N	Georgia, USA	www.iame.com/courses/courses.html
Stroke Society of Australasia	11-13 Oct	D	Adelaide, Australia	www.strokesociety.com.au
RCN Respiratory Nurses Meeting	14 Oct	S	Warwick, UK	N/A
4th Annual Sleep Center Symposium	14 Oct	S	Florida, USA	N/A
Society for Neuroscience- Neuroscience 2006	14 - 18 Oct	NS	Georgia, USA	http://web.sfn.org/
Michigan Sleep Disorder Association	20 - 21 Oct	S	Michigan, USA	N/A
Society for Psychophysiological Research	25 - 29 Oct	N	Vancouver, British Columbia	http://www.sprweb.org/

NOV-06	DATE	AREA	PLACE	WEBSITE
SSET	9 - 10 Nov	S	Florida, USA	N/A
Kentucky Sleep Society	10 - 11 Nov	S	Kentucky, USA	N/A
MEDICA	15 - 18 Nov	G	Duddeldorf, Germany	http://www.medica.de
6th Asian & Oceanian Epilepsy Congress	16 - 19 Nov	NS	Kuala Lumpur, Malaysia	www.epilepsykualalumpur2006.org

DEC-06	DATE	AREA	PLACE	WEBSITE
American Epilepsy Society - 1st North American Regional Epilepsy Congress	1 - 5 Dec	NS	California, USA (EEG)	N/A
Annual Australian Society for Psychiatric Research Conference	6 - 8 Dec	N	Sydney, Australia	N/A
15th Australasian Psychophysiology Conference & Annual Meeting of the Australasian Society for Psychophysiology	9 - 10 Dec	N	Canberra, Australia	N/A
American Association for Respiratory Care 52nd International Respiratory Congress	11-15 Dec	S	Nevada, USA (Sleep)	N/A

THE COMPUMEDICS DIVISIONS

Defining Life's Signals

Compumedics' operations consist of five divisions - each with its own product focus



Compumedics Sleep
Clinical Diagnostic Systems for Sleep Disorders



Compumedics Neuroscan
Clinical Diagnostic Systems for Neurophysiology



Compumedics Neuroscience
World-leading Research EEG/ERP systems



Compumedics NeuroMedical Supplies
Electrodes, sensors and supplies for Neurology and Sleep laboratories



Compumedics DWL
Ultrasound Doppler Systems

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SUGGESTION BOX

The Compumedics Vista Update is for you – our valued customers. Any comments, suggestions or feedback you may have on Compumedics Vista would be greatly appreciated.

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