

VIMPAT (lacosamide), a new epilepsy treatment for adults with partial onset seizures

Vimpat (lacosamide), a new adjunctive therapy in the treatment of partial-onset seizures with or without secondary generalisation in patients with epilepsy aged 16 years and older, has been launched in the UK.

The efficacy of VIMPAT® as adjunctive therapy at recommended doses (200mg/day, 400mg/day) was established in three multi-centre, randomised, placebo-controlled clinical trials with a 12-week maintenance period. Overall the proportion of subjects with a 50% reduction in seizure frequency was 23%, 34%, and 40% for placebo, lacosamide 200mg/day and lacosamide 400mg/day, respectively. In addition, results from an open-label extension study demonstrate long-term retention on Vimpat.



Lacosamide was generally well tolerated when added to a broad range of AEDs, with no clinically relevant drug-to-drug interactions seen with the most commonly used AEDs.

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High-speed spectral acquisition with a single scan



Nikon Instruments' A1 series of confocal laser scanner systems has now been further enhanced by the launch of the A1Si spectral detector option which provides fast 32-channel spectral imaging with speeds of up to 16 fps at 512 x 64 pixels and real time spectral unmixing. This cell-friendly system offers the ultimate solution for reducing light exposure during multiprobe studies, capturing full spectral data in just one fast scan.

Fast fluorescence unmixing during image acquisition is possible, with a 512 x 512 pixel, 32-channel image unmixed in less than one second. Coupled with high-speed spectral imaging, a clearly resolved image with no crosstalk between closely overlapping fluorophore emissions can be created in real time.

In addition, a new virtual filter function freely utilises the 32 channels, providing the flexibility to handle any new fluorescence probes. Desired spectral ranges can be selected and the total intensity of each range adjusted individually. Broader band spectral imaging is achieved on the A1Si, which requires only one pass of the laser to capture all the spectral data in the sample.

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MRI imaging leads pioneering neurological research

The MRC Cognition and Brain Sciences Unit (CBU) in Cambridge is an internationally renowned centre for research in the field of cognitive neurosciences. Its ground breaking studies into the brain function of vegetative state patients has provided invaluable insight into diagnosis pathways and the consequent care of the 'locked-in' patient.

The CBU is renowned for its clinical studies of vegetative state patients conducted in collaboration with colleagues at the Wolfson Brain Imaging Centre at Addenbrooke's Hospital which houses an identical MAGNETOM Trio MRI scanner from Siemens. Led by Dr Adrian Owen, the team recently looked into the brain activity during vegetative state, a condition where patients who emerge from a coma appear to be awake, but show no signs of conscious awareness. Traditionally, diagnosis for vegetative state is based on patient reaction to external stimuli i.e. noise or smell, but approximately 40% of patients are misdiagnosed as vegetative when in fact they may retain some degree of conscious awareness.

Using functional MRI (fMRI), a neuroimaging technique to study activity in the brain, researchers were able to test the neural



responses of patients diagnosed as vegetative. The findings suggested that residual cognitive capabilities were apparent in some cases and these allowed such patients to communicate their thoughts simply by modulating brain activity. When asked to process and respond to specific commands, the scanned images of apparent vegetative state patient's brains were indistinguishable from those of a healthy volunteer. The clinical studies took place at the Wolfson Brain Imaging Centre where patients with brain injuries are examined for evidence of preserved cognitive function.

For more information visit W. www.siemens.co.uk/healthcare

MicroMaxx® ultrasound system helps injured Manchester City players back to fitness

Manchester City Football Club's doctor has chosen the SonoSite MicroMaxx® point-of-care ultrasound system to assess players' muscle injuries regularly and ensure that they are back on the field as quickly as possible.

"I liked the SonoSite MicroMaxx system because it is compact and portable," said Dr Mark Whitaker, the club doctor. "I thought it would be ideal in an environment like our treatment room. We use it mainly to help modify our rehabilitation programme; the pressure is on to keep the player fit and trained, and the MicroMaxx gives us the confidence to push players on if we can see that



there is no significant injury. Ultrasound imaging has allowed us to play some of our footballers in senior games that we would not have played before. The fact that we're looking at it in a scientific way gives the footballers huge reassurance too."

Dr Whitaker is involved in Manchester PCT's tier two musculoskeletal service and feels the potential for quick, early diagnosis of community patients using the MicroMaxx will ensure patients are treated in the most appropriate manner.

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Donation of Brain Surgery System to 'Ukraine 3000'

Elekta recently announced a donation of Leksell Stereotactic System[®] for minimally invasive brain surgery to the International Charitable Foundation 'Ukraine 3000' for which Mrs Kateryna Yuschenko, wife of the President of Ukraine is the prime guardian. This donation was presented in the presence of Her Majesty Queen Silvia of Sweden, founder of the World Childhood Foundation. The system will be



used for treating a wide range of brain disorders at one of the leading neurosurgery hospitals in Ukraine.

Elekta is a human care company pioneering significant innovations and clinical solutions for treating cancer and brain disorders. The Leksell Stereotactic System is a system for advanced stereotactic neurosurgery, a minimally invasive form of surgery which allows the surgeon to take biopsies and treat brain disorders with the

highest precision and minimal trauma to the patient. It has become the system of choice in the whole world for treating functional diseases, for example Parkinson's disease.

The total value of the donated system, which also includes training at one of Elekta's renowned European reference sites, is around EUR 70,000.

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Elekta extends its line of Stereotactic Treatment Solutions at 2008 Congress of Neurological Surgeons Annual Meeting

Elekta recently introduced Extend^{™*}, a new stereotactic treatment programme that lets neurosurgeons and radiation oncologists apply the power and precision of Gamma Knife[®] surgery to an even broader class of targets in the head and neck.

For more than twenty years, Leksell Gamma Knife surgery has been the gold standard in intracranial radiosurgery. With its new relocatable frame and support for fractionated

treatments, the Extend program now provides the ability to treat large or critically located targets in the head and neck that were previously untreatable with Gamma Knife surgery. The result is an exciting crossover solution for neuro-oncology that combines Elekta's recognised excellence in stereotaxy with its proven expertise in radiation medicine.

"When faced with lesions that are too large or too critically located to be safely treated in

a single session, Extend enables clinicians to divide the radiation dose over multiple treatments," says Mark Symons, Senior Vice President, Stereotactic Business Unit. "It also includes the most precise non-invasive fixation option available, allowing both neurosurgeons and radiation oncologists to treat more patients with greater confidence."

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Carl Zeiss introduces Axio Scope.A1

Life science research and routine applications will benefit from the flexibility and adaptability of the Axio Scope.A1 microscope from Carl Zeiss. The modular design allows users to configure a microscope to their precise needs, safe in the knowledge that changes and upgrades can be implemented easily and quickly if demands change.

The Axio Scope.A1 is ideal for pathology, histology, cytology, microbiology, environmental research, molecular biology, plant physiology, developmental biology or genetics laboratories. Users have a choice of 23 stands, LED or halogen illumination, a retro-fittable fluorescence system, phase contrast, differential inter-



ference contrast (DIC) and the PlasDIC technique developed by Carl Zeiss, available in an

upright routine microscope for the first time.

The LEDs for fluorescence applications are fully integrated into the stand and offer a long service life with reduced running costs, excellent image contrast and ease of use. The newly-developed Ergo-stage can be locked along the y axis in exactly the position that a user finds most comfortable and convenient and an extended specimen area is adjustable for specimen heights of up to 110 mm. If one of the optional Vario stands is chosen, larger specimens of up to 380mm may be examined.

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Image capture at two wavelengths simultaneously



Faster, simpler imaging of cellular events is now possible as Nikon's Eclipse Ti Series inverted microscopes can capture images at two different wavelengths simultaneously, using dual cameras. Accelerating image acquisition while maintaining full frame resolution, the system is ideal for FRET and the capture of rapid dynamic cellular events using calcium or other ion-targeted probes, ratio probes, dual emission ratio-metric dyes etc.

The two cameras are positioned on the Eclipse Ti's back and side ports. Perfect registration between the two cameras is assured on installation to ensure that no information is lost during imaging. No further realignment or specialised alignment software is required. Even when the intensity difference between wavelengths is large, high-quality images can be captured by adjusting camera sensitivity for

each wavelength.

Nikon has partnered with Andor to offer their full range of high-performance iXon+ and Luca EMCCD cameras. The IxonEM+ 897 back-illuminated EMCCD camera offers high sensitivity, low noise and rapid frame rates giving distinct speed advantages in FRET applications. The cameras are optimised for use with Nikon's dedicated NIS-Elements software for image capture, processing and analysis. Unified integrated control of microscope and cameras offers significant benefits for cutting-edge live cell research. NIS-Elements C for confocal microscope applications includes FRET analysis software as standard.

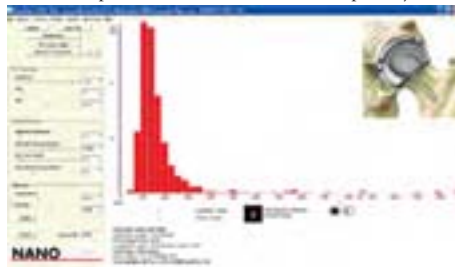
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NanoSight speeds Leeds University's characterisation of wear debris in orthopaedic implants

NanoSight Limited, the nanoparticle characterisation company, has announced that the University of Leeds is committed to the use of their Nanoparticle Tracking Analysis system for the study of wear debris generated in orthopaedic implants.

Dr Joanne Tipper of the Institute of Molecular and Cellular Biology studies nanoparticle sized polymer debris, specifically polyethylene generated first in vitro (to prove its presence) and then in vivo (from tissue from around failed hip replacements). The objective was first to characterise/size the particles and then to consider their bioactivity and effect on cell responses.

Particle size plot of wear debris from an orthopaedic joint.



Dr Tipper has made measurements on different materials used for implants (metal-metal, ceramic-ceramic and polymer-polymer). She has had good results on model metal and ceramic particle systems. The metal nanopar-

ticle debris are typically in the range of 20-80nm which is particularly suited to NTA when compared to light scattering methods. The NTA results compare extremely well with high resolution FEG-SEM, and these particles compare well with clinically generated wear debris. NTA has proven to be much easier to use, requiring minimal sample preparation time compared to SEM and then providing results in minutes. When studying polymers, NTA produced excellent results for polyethylene particles in the 100-800nm range, again when compared to FEG-SEM.

For more information visit W. www.nanosight.co.uk

Anaesthetic team evaluation reveals the Lightman® detects inaccurate Pulse Oximeter probes

The Electrode Company Ltd, inventors of the world's first patient in adaptive noise cancellation in pulse oximetry produce the Lightman®. This market-leading pulse oximeter sensor tester was the subject of a successful presentation at the summer scientific meeting of the Anaesthetic Research Society in June.



The presentation was made by Dr C Dunstan, on behalf of the team from The Anaesthetic Departments of the University Hospital Wales and the Clinical School of the Royal Gwent Hospital, Newport. In it they concluded that 'the Lightman® can detect the faulty probes' and 'facilitate the removal of faulty probes from the clinical environment.'

The Lightman® is designed to detect pulse oximeter sensor accuracy. The Anaesthetic Team decided to evaluate its predictions against a blood gas analyser. The evaluation showed that sensor errors are larger at lower saturation levels. Blood gas analysis confirmed errors of up to 9%. A lively Q&A session followed the presentation which also showed that in a previous hospital survey at Newport, the Lightman® found 11% of

the probes to be significantly inaccurate leading to 'possibly serious consequences' or 'unnecessary and perhaps harmful intervention'.

For more information T. 01291 650279, W. www.electro.co.uk

Automatic High-Content Image Analysis Simplifies Cell Research



New software from Carl Zeiss automatically extracts biologically relevant data from micrographs by combining high-resolution fluorescence imaging and complex image analysis. Developed with the high content screening specialist, Celloomics®, the AxioVision ASSAYbuilder module inherits 15 years of experience in the field of High-Content Analysis (HCA) to offer the most reliable method of high content analysis and screening.

ASSAYbuilder supports the examination of processes in cells, between cells or in small organisms and will be especially useful in studies such as apoptosis, cytotoxicity, molecule localisation and translocation, cell differentiation and proliferation, GFP expression, and GPCR signal pathways. For example, users can analyse the position of the cytoskeleton or determine the proportion of living and dead cells in a sample. Furthermore, it allows the characterisation of cell cultures, the identification of new cellular starting points for the development of future medication, and the identification of lead substances in small or medium screenings in pharmaceutical research.

The ease-of-use means that researchers can concentrate on efficiently planning further experiments and publishing their results rather than having to become expert at the fundamentals of image analysis. However, the software module is sufficiently powerful to cope with even highly sophisticated requirements, such as subpopulation analyses.

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'Oar' inspiring stroke campaign launched

Siemens, high performance partner of GB Rowing, and The Stroke Association have launched the Stroke for Stroke campaign 2008 aiming to highlight the positive benefits of regular exercise and help educate and inform the public about strokes and stroke prevention. In 2007 the initiative raised £40,000.

"Each year an estimated 150,000 people in the UK will have a stroke. This puts a big pressure on the NHS in terms of identifying symptoms quickly so that an accurate course of treatment can be prescribed. Prevention has to go hand in hand with expanding the provision of diagnostic and treatment facilities available to patients. Access to rapid CT scanning upon admission to hospital is essential to diagnosis and determination of treatment. This is especially important as some patients may benefit from a reperfusion therapy that is only currently administered within a three hour window from the onset of symptoms. This



Siemens and GB Rowing have launched the Siemens Stroke for Stroke campaign 2008.

treatment not only helps to save lives, it can also dramatically improve the quality of life to survivors of this condition," states Peter Harrison, Director of Imaging & Oncology Systems at Siemens Healthcare.

Four time Olympic gold medallist, Sir Matthew Pinsent CBE is backing the campaign.

For more information visit W. www.siemens.co.uk/healthcare