

made of this issue. In addition, since there is no relationship between changes in striatal volume and recognition of disgust or any other emotion this suggests that volumetric changes in the striatum are not responsible for changes in emotion recognition. - CA

Johnson A, Stout J, Solomon A, Langbehn D, Aylward E, Cruce C, Ross C, Nance M, Kayson E, Julian – Baros E, Hayden M, Kieburz K, Guttman M, Oakes D, Shoulson I, Belinger L, Duff K, Penziner E, Paulsen J and the Predict – HD investigators of and the Huntington Study Group.

Beyond disgust: impaired recognition of negative emotions prior to diagnosis in Huntington's disease.

BRAIN

2007;130:1732-44.

HEADACHE: Mechanisms of trigeminal ganglion signalling

Activation of trigeminal ganglion nerves and release of calcitonin gene-related peptide (CGRP) are implicated in the development of migraine. This study examined the neuronal-glia interactions within the trigeminal ganglion during normal and inflammatory conditions, in rats. A retrograde tracer was used to localise the cell bodies in the ganglion and studies conducted during basal conditions and after injection of capsaicin into the temporomandibular joint capsule, used as a noxious stimulus to the third division of the trigeminal. The position of the tracer and levels of CGRP and cytokines were measured under control and activated conditions. Under conditions of stimulation, there was tracer present in surrounding glia, and therefore communication between the neuronal-glia gap junctions. Further there was increased expression of inflammatory proteins in all divisions of the trigeminal ganglion, not just the third division which had been stimulated. This study showed in an experimental model that noxious stimulation of one division of the trigeminal resulted in activation of neuronal-glia gap junctions and set up an inflammatory cascade which involved a wider anatomical area, namely all three divisions of the trigeminal. While caution is needed in extrapolation to migraine in humans, this research is important because it highlights some of the possible mechanisms for the initiation of migraine and sensitisation of surrounding areas. – HAL

Thalakoti S, Patil VV, Damodaram S, Vause CV, Langford LE, Freeman SE, Durham PL.

Neuron-glia signalling in trigeminal ganglion: implications for migraine pathology.

HEADACHE

2007;47:1008-23.

BELL'S PALSY: Smile but not too much, it's the quality of smile that counts

*** RECOMMENDED

People with Bell's palsy are often treated using a combination of exercises and electrical stimulation of facial muscles. The exercises will typically include smiles, eye closures, eye brow raises, frowns, mouth puckers and pouts, as well as tasks such as using a straw, blowing up balloons and chewing gum on the affected side. The electric stimulation serves to increase the afferent input through lots of repeated contractions of facial muscles. Although improvement occurs, some patients fail to develop the finely tuned symmetrical facial expression that is so important for social acceptance. In an effort to improve outcomes a more conservative approach to facial rehabilitation has developed: 'Facial Neuromuscular Education' is a more conservative approach to treatment that emphasises symmetry in facial movements. This method has been tested against the conventional treatment package of more extreme facial exercises and electrical stimulation in a block randomised controlled trial of 59 patients. Patients in the experimental group were instructed to do actual facial movements on the affected side without allowing movements of the unaffected side to distort the symmetry. They were encouraged to concentrate on quality of the exercises and not the quantity, starting with only 5-10 repetitions of each exercise three times a day. For both groups the respective treatments were given in outpatient sessions for three weeks with continuation of training at home encouraged for three months. Measured using a facial grading scale in which facial symmetry is assessed the patients treated with the Facial Neuromuscular Education had significantly better (more symmetrical) facial movements at 3 months. The report does not indicate that assessors were blind to group allocation, nor does it give any idea of compliance to the treatments at home. It is also impossible to tell whether the electrical stimulation actually had a harmful effect, as has been suggested in animal studies. However the results suggest that the more controlled training of facial movements might yield better outcomes for patients with Bell's Palsy than the more gung ho practice of gross facial expressions and electrical stimulation. -AJT

Manikandan N.

Effect of neuromuscular re-education on facial symmetry in patients with Bell's palsy: a randomised controlled trial.

CLINICAL REHABILITATION

2007;21:338-43.

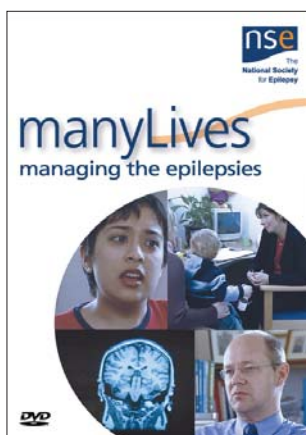
Journal reviewers

Heather Angus-Leppan, Royal Free & Barnet Hospitals;
Chrystalina Antoniadou, Cambridge Centre for Brain Repair;
Roger Barker, Cambridge Centre for Brain Repair;
Lloyd Bradley, Colman Centre for Specialist Neurological
Rehabilitation Services in Norwich;

Alasdair Coles, Cambridge University;
Andrew Larner, Walton Centre, Liverpool;
Mark Marford, Addenbrooke's Hospital, Cambridge and Bedford Hospitals;
Wendy Phillips, Addenbrooke's Hospital, Cambridge;
Robert Redfern, Morrision Hospital, Swansea;
Ailie Turton, University of Bristol.

News Review

Latest thinking on treating epilepsy at special price



A unique resource featuring some of the world's leading experts in epilepsy is now exclusively available from the National Society for Epilepsy (NSE) at a special one-off promotional price. The new three-disc education and information DVD package manyLives explores the latest thinking on the treatment of epilepsy.

Internationally recognised expert Professor John Duncan, featured, says manyLives is an ideal tool for neurologists, training neurologists and other health professionals who treat people with epilepsy. "This project is very exciting as it highlights the importance of those with epilepsy working with their professional advisors to devise the best treatment plan to try to control their epilepsy and to make the most of their life," Professor Duncan said.

The resource, featuring nine of the UK's leading experts in epilepsy, also contains information and downloadable practical tools for treating and managing the condition. It is supplemented by seizure footage to help with the recognition and classification of seizures.

NSE's epilepsy information manager Rona Gibb said: "It is a programme designed for professionals working within the multi disciplinary team that provides care for people with epilepsy. It reflects the move away from the old theory of adherence to the more recent idea of concordance."

People wishing to purchase manyLives at the special promotional price of £95 (normally £120) can visit the NSE online shop at www.epilepsynse.org.uk

Firewire entry-level digital cameras

Boosting its range of AxioCam digital cameras, Carl Zeiss has launched a pair of entry-level cameras specially developed for routine applications in brightfield microscopy and stereomicroscopy. The 1.4 megapixel AxioCam ICc1 and the 3.3 megapixel AxioCam ICc3 combine outstanding performance and an affordable price, making them ideally suited for routine laboratory and industrial applications.



The AxioCam IC digital microscope cameras

Both new cameras are inexpensive enough to replace conventional compact cameras with zoom lenses or complex video camera with framegrabber technology. However, resolutions of up to 2080x1540 pixels deliver a considerable improvement in image quality. The radical price/performance ratio means the AxioCam IC is ideally suited to the Zeiss Axio Star and Primo Star microscopes, the Stemi 2000C and SteREO Discovery stereomicroscopes, and routine microscopes and stereomicroscopes from other manu-

facturers.

The AxioCam IC cameras, measuring just 44x44x44mm, are equipped with C-mount adapters and are tightly integrated into Zeiss' AxioVision image processing software. A FireWire interface allows high speed transfer of up to 30 images per second with AxioCam ICc1 and 39 images per second with AxioCam ICc3. Since the cameras take power via the FireWire connection, a power cable or external PSU is not required.

Unlike video and compact cameras, the AxioCam IC operates without any moving parts and does not require memory cards or zoom adapters and correction procedures. The absence of moving parts offers totally vibration-free microscopy with distortionless images sent directly to the PC and the AxioVision application software.

For further information
E. micro@zeiss.co.uk

Patients treated with Betaferon® after first MS attack experienced significant delay in disability progression

Patients treated with Betaferon® (interferon beta-1b) after their first clinical MS event or 'attack' showed a 40% lower risk of progressive neurological impairment as measured by the Expanded Disability Status Scale (EDSS), when compared to patients in whom treatment was delayed ($p=0.022$). The results, published recently in *The Lancet*, provide the first controlled evidence that delaying Betaferon® treatment has an effect on accumulation of disability. No other MS therapy has demonstrated this effect in this early patient population.

The BENEFIT study (BETAferon in Newly Emerging multiple sclerosis For Initial Treatment), sponsored by Bayer Schering Pharma AG, compared Betaferon® treatment initiated after a first clinical event with delayed treatment. The study was conducted at 98 sites in 20 countries, including the UK, and included a total of 468 patients.



In the study, investigators measured MS progression of patient disability using a validated, well-established scale called EDSS. Disability progression was defined as an increase in a patient's EDSS score by at least one point that was confirmed after six months. A confirmed increase by one point in the EDSS scale can be an important and robust predictor of permanent and severe disability later in the disease.

"The data from BENEFIT not only supports the evidence that treatment with Betaferon® after the first clinical attack reduces the risk of subsequent MS attacks in the first year, but is also the first to demonstrate an impact on disability progression," said Professor David Bates, Professor of Clinical Neurology at the University of Newcastle upon Tyne, UK.

For more information
E. liz.tucker@bayerhealthcare.com

Magstim® are pioneers in nerve stimulation

A company can only be as forward-thinking as its people, which explains why Magstim has become the leading developer of magnetic stimulation technology. Constantly pushing the boundaries of research and development, the recently formed custom design team - Magstim Innovations - offers expert engineering and manufacturing capabilities to tackle bespoke projects.

Magstim's latest technological advance is the unique Air Film™ Coil based on research by Dr Reza Jalinous, Boston, USA. Designed to allow users to stimulate for extended periods of time, the self cooling coil offers researchers and clinicians a compact, easy-to-use manoeuvrable unit which enhance both magnetic stimulation research and therapeutic applications.

Magstim is also helping to provide researchers and students with a forum to discuss their findings by sponsoring "Neuromodulation and Brain Stimulation News" (NBS News). NBS News brings together ground breaking magnetic stimulation research and current news from around the world into one newsletter.

Your free copy of NBS News is included with this issue of ACNR. If it is missing,
E. andrew.thomas@magstim.com or
Tel. +44 (0)1994 240798.

New PMR website

A new website aimed at physicians practicing physical medicine and rehabilitation (PMR) in different parts of the world has recently been launched by Manoj Sivan, a rehabilitation medicine trainee currently working in Cambridge. The website www.pmrforum.com is an initiative towards developing a common platform for specialists from every region of the world to share knowledge and views in a vast and ever growing speciality. The aim is to keep everyone informed of the current developments and update knowledge on various aspects of the speciality.

To register visit the website www.pmrforum.com and register yourself on the Forum page for access to view and contribute to the international debate. To add information to the other pages, members are requested to email manoj@pmrforum.com and it will be updated on the relevant page.

Hybrid solution enhances nuclear medicine capabilities



Pictured with the Siemens Symbia T2 are staff from the Princess Alexandra Hospital in Harlow: (L to R) Anita Woollard, Senior Radiographer, Brian Peters, Senior Radiographer, Ray Winstone, actor, Paula Sandhu, Superintendent Radiographer, Dr C J Barber, Consultant Radiologist, Liz Mazura, Radiology Manager, Gordon Flack, Finance Director and Chris Nottage, Consultant Physicist.

Siemens Medical Solutions has installed the Symbia T2 integrated gamma camera and dual slice CT scanner at Princess Alexandra Hospital in Harlow. TV and screen actor and local resident Ray Winstone lent his support at the official handover.

Princess Alexandra Hospital was keen to replace its previous system in order to provide more accurate diagnosis for its nuclear medicine service. The new technology will enable radiologists and clinicians to perform structural scans with CT superimposed on the Nuclear Medicine

study, which guarantees greater accuracy in locating the lesions detected.

Symbia T2, a True Point SPECT-CT system, combines a dual-detector variable angle gamma camera with a dual slice CT scanner for routine oncology, neurology and cardiology applications. The device performs abdominal CT in less than 13 seconds and includes a dual slice 0.8 second rotation, with effective imaging of the new targeted tracers and agents.

For more information
Tel. +44 (0)1344 396317 or see
www.siemens.com

Fast and efficient laser scanning microscopy

Carl Zeiss has upgraded and enhanced its flagship laser scanning microscope with the release of the LSM 5 DUO R4.2. The new system boasts improved laser modules, increased resolution of 2.4 megapixels in the fast line scan mode, and an integrated autofocus function to make using many new fluorescent dyes faster and more efficient.

Consisting of two award-winning confocal microscope systems - the LSM 510 META and the LSM 5 LIVE, the LSM 5 DUO is ideal for combining fast scanning with optical sample manipulation for bleaching and for applications such as Photo-Activation, Photo-conversion, FRAP and FRET. Researchers wishing to use multiple fluorescent dyes will also benefit from the integration of several double bandpass filters into the DUO. Fast excitation wavelength changes allow imaging of two dyes through only one detection channel or up to four dyes through two detection channels.

The LSM 510 META and LSM 5 LIVE are also available as individual systems and now feature improved hardware and software.

For further information E. micro@zeiss.co.uk



The LSM 5 DUO laser scanning microscope system based on the Zeiss AxioObserver platform.

World's first high definition PET•CT unveiled

Siemens Medical Solutions has introduced high definition positron emission tomography with the recent unveiling of HD•PET, the world's first and only high definition PET technology to offer consistently sharper and clearly defined images across the entire field of view.

Siemens has added high definition to the Biograph™ TruePoint™ family of hybrid PET•CT systems. The clarity of HD•PET will provide greater specificity and accuracy and will enable physicians to more confidently delineate small lesions – including those in lymph nodes, abdomen, head and neck and brain – to provide earlier, more targeted treatment.

The clarity achieved by HD•PET is the result of a unique and proprietary technology that optimises the elements of image uniformity, resolution and contrast - that together change the whole picture.

The uniform resolution provided by HD•PET throughout the field-of-view is a significant step in improving PET image quality. This could potentially improve staging of disease and hence clinical outcome.

By utilising a proprietary reconstruction technique, HD•PET can provide distortion-free images throughout the entire field of view. This improved 2 mm resolution enables physicians to clearly visualise the smallest of lesions from the centre to the edges - a benefit unique to Siemens' HD•PET.

Adding high definition to PET systems also dramatically enhances contrast. The improvement in signal to noise, which effectively doubles, reveals sharper images that allow the clinician to better differentiate between healthy and suspicious tissue.

For more information Tel. +44 (0)1344 396317 or see www.siemens.com



The Biograph 64 PET•CT scanner used in conjunction with syngo TrueD software.

PRESCRIBING INFORMATION - UK AND IRELAND

Please refer to the Summary of Product Characteristics for further information
REBIF® 8.8 MICROGRAMS AND 22 MICROGRAMS – SOLUTION FOR INJECTION

Interferon beta-1a

Initiation Pack

Presentation Each pre-filled glass syringe contains 8.8 or 22 micrograms of Interferon beta-1a in respectively 0.2 or 0.5 ml. **Indication** For the treatment of relapsing multiple sclerosis. Efficacy has not been demonstrated in patients with secondary progressive multiple sclerosis without ongoing relapse activity. **Dosage and administration** Treatment should be initiated under supervision of a physician experienced in the treatment of multiple sclerosis. For patients initiating treatment with Rebif®, the dosage recommended for the first month of treatment is 8.8 micrograms three times a week by subcutaneous injection for the first two weeks and 22 micrograms three times a week by subcutaneous injection for the following two weeks. From the fifth week Rebif 44 micrograms should be administered. Limited published data suggest that the safety profile in adolescents from 12 to 16 years of age receiving Rebif 22 micrograms by subcutaneous injection three times per week is similar to that seen in adults. Not to be used in patients under 12 years of age. Evaluate patients at least every second year of treatment period. **Contraindications** History of hypersensitivity to natural or recombinant interferon beta, human albumin, or to any of the excipients; initiation of treatment in pregnancy; current severe depression and/or suicidal ideation. **Precautions** Inform patients of the most common adverse reactions. Symptoms tend to be most prominent at the initiation of therapy and decrease in frequency and severity with continued treatment. Use with caution in patients with previous or current depressive disorders and those with antecedents of suicidal ideation. Patients should be advised to report immediately any symptoms of depression and/or suicidal ideation. Patients exhibiting depression should be monitored closely during therapy and treated appropriately. Cessation of therapy should be considered. Administer with caution to patients with a history of seizures and to those receiving treatment with anti-epileptics, particularly if their epilepsy is not adequately controlled. Patients should use an aseptic injection technique and rotate injection sites to minimise risk of injection site necrosis. Patients with cardiac disease should be closely monitored for worsening of their clinical condition during initiation of therapy. Use with caution in patients with history of significant liver disease, active liver disease, alcohol abuse or increased serum ALT. Serum ALT levels should be monitored prior to the start of therapy, at months 1, 3 and 6 on therapy and periodically thereafter. Stop treatment if icterus or other clinical symptoms of liver dysfunction appear. Treatment has a potential to cause severe liver injury including acute hepatic failure. Laboratory abnormalities are associated with the use of interferons. Liver enzyme and full haematological monitoring are recommended at regular intervals (months 1, 3 and 6 on therapy) and periodically thereafter. New or worsening thyroid abnormalities may occur. Thyroid function testing is recommended at baseline and if abnormal every 6 – 12 months. Administer with caution to and monitor closely patients with severe renal and hepatic failure or patients with severe myelosuppression. Serum neutralising antibodies against Interferon beta-1a may develop. The clinical significance of these antibodies has not been fully elucidated but is associated with reduced efficacy. If a patient responds poorly and has neutralising antibodies, reassess treatment. Women of childbearing potential should use effective contraception during treatment. **Side effects** The majority of adverse reactions observed with Interferon beta-1a are usually mild and reversible, and respond well to dose reductions. In case of severe or persistent undesirable effects, the dose of Rebif® may be temporarily lowered or interrupted, at the discretion of the physician. Very common adverse drug reactions (ADRs) are injection site inflammation/reaction, influenza like symptoms, headache, asymptomatic transaminase increase, neutropenia, lymphopenia, leucopenia, thrombocytopenia, anaemia. Common ADRs are injection site pain, myalgia, arthralgia, fatigue, rigors, fever, pruritus, rash, erythematous or maculo-papular rash, diarrhoea, vomiting, nausea, depression and insomnia. Serious AEs are injection site necrosis, hepatitis with or without icterus, severe liver damage, anaphylactic reactions, angioedema, erythema multiforme, erythema multiforme-like skin reactions, seizures, thromboembolic events, suicide attempt. Consult the Summary of Product Characteristics for more information relating to side effects. Additional information is available on request. **Pharmaceutical precautions** Store in a refrigerator at 2°C to 8°C in the original package. Do not freeze. **Legal category POM Basic NHS price** Rebif® Initiation Pack containing: Rebif® 8.8 micrograms - solution for injections: 6 pre-filled syringes (0.2 ml) Rebif® 22 micrograms – solution for injections: 6 pre-filled syringes (0.5 ml) £586.19 Prices in Ireland may differ, consult distributors Allphar Services Ltd **Marketing Authorisation Numbers:** EU/1/98/063/007 **Name and Address of Marketing Authorisation Holder** Serono Europe Ltd, 56 Marsh Wall, LONDON E14 9TP **Name and Address of Distributor in UK** Serono Ltd, Bedford Cross, Stanwell Road, Feltham, Middlesex TW14 8NX **Name and Address of Distributor in Ireland** Allphar Services Ltd, Pharmaceutical Agents and Distributors Belgard Road, Tallaght, Dublin 24, Ireland

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Job Bag: REB07-0074

Information about adverse event reporting in the UK can be found at www.yellowcard.gov.uk. In the Republic of Ireland information can be found at www.imb.ie. Adverse events should also be reported to Serono Limited - Tel: +44 (0)20 8818 7373 or email: medinfo.uk@serono.com

Date of Preparation: July 2007

Job Bag: REB07-0108

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