

## Abbreviated Prescribing Information Botox®

**Presentation:** Contains 100 units (U) of *Clostridium botulinum* type A neurotoxin complex (900kD). **Uses:** BOTOX® is indicated for focal spasticity, including the treatment of dynamic equinus foot deformity due to spasticity in ambulant paediatric cerebral palsy patients, two years of age or older and wrist and hand disability due to upper limb spasticity associated with stroke in adults.

**Dosage and Administration:** BOTOX® is reconstituted prior to use with sterile unpreserved normal saline (0.9% sodium chloride for injection). **Doses recommended for BOTOX® are not interchangeable with other preparations of botulinum toxin. Paediatric cerebral palsy:** Diluted BOTOX® is injected using a sterile 23-26 gauge needle. It is administered into each of two sites in the medial and lateral heads of the affected gastrocnemius muscle. The recommended total dose is 4 units/kg body weight. When both lower limbs are to be injected on the same occasion this dose should be divided between the two limbs. Clinical improvement generally occurs within the first two weeks after injection. Repeat doses should be administered when the clinical effect of a previous injection diminishes, but not more frequently than every two months. **Focal Spasticity associated with stroke:** Reconstituted BOTOX® is injected using a sterile 25, 27 or 30 gauge needle for superficial muscles, and a longer needle for deeper musculature. Localisation of involved muscles with EMG guidance or nerve stimulation may be useful. Multiple injection sites may allow BOTOX® to have more uniform contact with the innervation areas of the muscle, especially in larger muscles. The exact dosage and number of injection sites may be tailored to the individual based on size, number and location of muscles involved, the severity of spasticity, and the presence of local muscle weakness. (See SPC for dosage recommendations). **Contra-indications:** BOTOX® is contra-indicated, a) in individuals with a known hypersensitivity to any component of the formulation; b) when there are generalised disorders of muscle activity (e.g. myasthenia gravis); c) when aminoglycoside antibiotics or spectinomycin are already being used or are likely to be used; d) when there are bleeding disorders of any type, in case of anticoagulant therapy and whenever there is any reason to avoid intramuscular injections and e) during pregnancy or lactation. **Warnings and special precautions:** The relevant anatomy, and any alterations to the anatomy due to prior surgical procedures, must be understood prior to administering BOTOX®. Extra caution should be paid in the case of injection sites close to structures such as the carotid artery and pleural apices. The recommended dosages and frequencies of administration of BOTOX® should not be exceeded. Adrenaline and other anaphylactic measures should be available. **Reconstituted Botox® is for intramuscular injection ONLY. Focal Spasticity associated with paediatric cerebral palsy and stroke:** BOTOX® is a treatment for focal spasticity that has only been studied in association with usual standard of care regimens, and is not intended as a replacement for these treatment modalities. BOTOX® is not likely to be effective in improving range of motion at a joint affected by a fixed contracture. **Side effects:** Side effects may occur from misplaced injections of BOTOX® temporarily paralysing nearby muscle groups. Excessive doses may cause paralysis in muscles distant to the injection site. In cerebral palsy all treatment-related adverse events were mild-to-moderate in severity. The adverse reaction most frequently reported include falling, leg pain, leg (local) weakness, general weakness and localised pain at injection site. In focal upper limb spasticity the most commonly reported adverse reactions were ecchymosis, purpura, injection site haemorrhage, arm pain, muscle weakness, hypertonia and injection site burning. Less frequent events reported included hyperesthesia, arthralgia, pain, bursitis, dermatitis, headache, injection site hypersensitivity, malaise, nausea, paresthesia, postural hypotension, pruritus, rash, incoordination, amnesia, circumoral paresthesia, depression, insomnia, peripheral oedema, vertigo. Some of the uncommon events may be disease related. **Interactions:** The effect of botulinum toxin may be potentiated by aminoglycoside antibiotics or any other drugs that interfere with neuromuscular transmission e.g. tubocurarine-type muscle relaxants. Concomitant use of BOTOX® with aminoglycosides or spectinomycin is contra-indicated. Polymyxins, tetracyclines, lincomycin and muscle relaxants should be used with caution. **Pharmaceutical precautions:** Unopened vials should be stored either at 2°C-8°C (in a refrigerator), or in a freezer at or below -5°C. After reconstitution BOTOX® may be stored in a refrigerator (2-8°C) for up to 4 hours prior to use. Cost: £128.93 per vial (excl VAT). POM. PLO426/0074. Date of preparation: May 2002. Allergan, Coronation Road, High Wycombe, Bucks HP12 3SH. Further information available on request.

## FREE RESOURCE

### Nikon's new C1 confocal microscope system

Nikon is pleased to introduce the C1 confocal microscope system – a new ultra compact and lightweight system that supports a variety of imaging techniques including simultaneous 3-channel fluorescence plus diascopic DIC, time-lapse recording and spatial analysis.

The C1 is said to boast the world's smallest and lightest scanning head. It can easily be mounted on upright or inverted microscopes and can be used with other equipment, such as manipulators and digital cameras, without any compromise in performance.

An exceptional signal-to-noise ratio means that the intensity of excitation can be lowered – a real advantage in reducing the possibility of damage during live cell imaging. This together with improved fluorescence transmission, and high quantum efficiency photomultiplier tubes, provide exceptionally clear, sharp images.

For more information, contact Tel: 020 8481 6826, E-Mail: [discover@nikon.co.uk](mailto:discover@nikon.co.uk), [www.nikon.co.uk/inst](http://www.nikon.co.uk/inst). Contact Nikon to arrange your free laboratory trial and to receive a Discover More Gift Pack



### Digital autoradiography systems for basic neuroscience research

The Biospace Micro and Beta Imagers are revolutionary new systems for digital autoradiography. These new basic research tools reduce autoradiographic imaging times to hours, instead of weeks or months, even with low energy isotopes such as tritium.

With a spatial resolution of 15 microns the system is ideally suited to applications such as hybridisation and radioligand binding.

These Imagers use unique, patented technology to increase efficiency in the research laboratory and alongside the Beta Microprobe (the all new probe

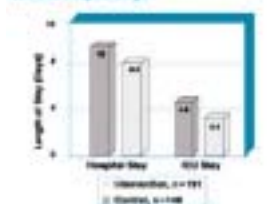
system for PET experiments) and Gamma Imager (bench top gamma camera for preclinical pharmacokinetics) provide new possibilities for neuroscience research.

For further information or to discuss applications in more detail contact LabLogic, Tel: 0114 2500419, Fax: 0 114 2500291, E-Mail: [hlyon@lablogic.com](mailto:hlyon@lablogic.com) [www.lablogic.com](http://www.lablogic.com)



### Maintaining brain oxygen saturation during cardiac surgery shortened hospital stays

Cornell University Outcomes Study - Saving Cardiac Surgery, Minimizing ICU, Shortening ICU and Hospital Stays



Maintaining cerebral oxygen saturation during surgery is associated with significantly shortened ICU and hospital stays.

A study from the Weill Medical College of Cornell University demonstrated that maintaining regional brain oxygen saturation at adequate levels during cardiac surgery shortened ICU and hospital stays.

The patients were monitored with Somanetics' INVOS Cerebral Oximeter, the only commercially-available patient monitoring system to noninvasively and continuously monitor changes in the regional blood oxygen saturation in the brain.

Use of this patient monitoring system allows medical professionals to monitor changes in cortical blood oxygen saturation and take corrective action. Research indicates that such action can prevent or reduce neurological injuries related to surgery and other critical care situations, and reduce the associated cost of care.

The intervention group experienced a lower incidence and duration of brain oxygen desaturation, and had significantly shorter ICU and hospital stays than the control group. On average, ICU stays were shortened by one and a half days and hospital length of stay was reduced by about two days, thus reducing the total costs of surgery.

For more information contact Tyco Healthcare Ltd on Tel. 01329 224226, E-Mail: [marketing@tycohealth.com](mailto:marketing@tycohealth.com)

### INTERNATIONAL CJD DAY

Tuesday November 12, 2002 is International CJD Day - the aim is to raise public awareness of this very rare disease.

To mark the day a one-day conference, "Aspects and Perspectives", is being held at The Glaxo Neurological Centre, Liverpool, 9.30am-4.15pm. Zoey Appleyard will release balloons in memory of those people who have died with CJD in the last ten years, and a rose will be launched, Nina Nadine, specially cultivated in memory of people who have died. The CJD Support Network will also launch CJD Nursing Guidelines, and the Brain & Spine Foundation will launch a CJD information pack.

Speakers include Dr Angus Kennedy, Consultant Neurologist; Prof JW Ironside, Consultant Neuropathologist, Director of the National CJD Surveillance Unit; Dr M Doran, Consultant Neurologist; Dr A Larner, Consultant Neurologist; Professor Don Jeffries, Vice President, The Royal College of Pathologists, Vice Chair CJD Incidents Panel; Mr R Tomkins and Ms S Shadbot.

On Sunday November 17 at St Martin in the Fields, a memorial service will be held at 6.30pm to remember people who have died with CJD.

For further information visit [www.cjdsupport.net](http://www.cjdsupport.net)



**Integrating theory and practice in neuropsychological rehabilitation**

The Oliver Zangwill Centre run an annual programme of workshops for professionals involved in the rehabilitation and care of adults with brain injury. Adrian McGrath, Forensic Psychologist and Psychotherapist HM Prison, Altcourse, Liverpool, attended a workshop which focused on the integration of theory and practice in relation to neuropsychological rehabilitation.

"The workshop provided participants with a comprehensive knowledge of various theoretical models and how these may be applied in guiding clinical formulation and interventions. Cognitive, emotional and neuropsychological formulations were emphasised and the day culminated in participants working in small groups to apply their knowledge of specific frameworks with a specific case example.

The clinical implications of working with brain injury require practitioners to develop and maintain their knowledge of a variety of frameworks by incorporating evidence-based models and methodologies from a number of different fields. Various models of emotional sequelae of brain injury were explored. I would highly recommend these workshops to other professionals working with brain injury or with other clinical work involving cognitive deficits, for example, schizophrenia."

For more information contact Alison Gamble, The Oliver Zangwill Centre, Tel: 01353 652173, E-Mail [alison.gamble@pow.lifespantx.nhs.uk](mailto:alison.gamble@pow.lifespantx.nhs.uk)

**Ultra-high field MR**

Obtaining new insights into the functions and metabolic processes of the brain is one of the reasons for research institutions and hospitals to invest in ultra-high field magnetic resonance (MR) systems. Siemens Medical Solutions offers two different 3T (Tesla) models for neurological examinations. Siemens also provides the primary components for 7T systems used primarily for research.

Magnetic resonance (MR) systems compute diagnostic images. However, various types of noise are superimposed on the signal. To obtain an optimal signal, either the signal must be increased or the noise eliminated. The solution is to increase signal intensity by applying stronger magnetic fields. As a result, 3 tesla (and later) 7 tesla MR systems were developed.

Initially, MR systems with strong magnetic fields required a great deal of space, making them very costly for hospitals. Today's modern magnet design means that



3T MAGNETOM Trio for research and high performance whole body imaging

3 Tesla systems require no more space than current 1.5 Tesla systems.

**Clinical Applications**

Information as to how individual regions of the brain function is critical. By measuring the BOLD effects (Blood-Oxygenation-Level-Dependent), conclusions may be drawn on which neuronal regions in the brain are active. Ultra high-field MR is the tool for comprehensive mapping of the human brain.

MR spectroscopy enables metabolic changes in the brain to be displayed. This information can be used to determine the activity of tumours, plaque, multiple sclerosis, or epilepsy. Because of the higher signal produced, 3T MR spectroscopy enables more precise and reliable spectral analysis.

For more information contact Mike Bell on Tel. 01344 396317, or see [www.siemensmedical.com](http://www.siemensmedical.com)

**Ebixa® for Alzheimer's disease**

Data on Ebixa® (memantine), the first and only agent in a new class, and the only agent indicated for moderately severe to severe Alzheimer's disease, was presented recently by Lundbeck. Clinical trials of this NMDA (N-methyl-D-aspartate) receptor antagonist have demonstrated benefits in global response (overall improvement), function (activities of daily living) and cognition (memory and thought processes).

This benefits patients and carers since patients may be less dependent, potentially delaying admission to long-term care. There was also a reduction in time spent by carers.

Ebixa® represents a new opportunity to treat moderately severe and severe Alzheimer's disease. There are no other agents available for the severe stage of Alzheimer's disease, yet 75% of the treatment costs relate to this stage.

Ebixa® works through a different mechanism than other currently approved Alzheimer's agents. It is an NMDA receptor antagonist, which protects the brain against excess glutamate, a messenger chemical released in excess amounts in brains suffering from Alzheimer's disease.

For more information tel. 01908 649966.

**Clinical Pain Management**

Comprised of four volumes – Acute Pain, Chronic Pain, Cancer Pain and Practical Applications and Procedures – Clinical Pain Management is a comprehensive textbook that presents trainee and practising pain specialists with all they need to know to provide a successful pain management service.

The set includes three clinical volumes that deal respectively with all aspects of acute, chronic and cancer pain – from the basic mechanisms of pain to various treatments. A fourth volume, Practical Applications and Procedures, complements these three by providing helpful advice on practical aspects of clinical management and research.

Clinical Pain Management is available to purchase as a comprehensive four-volume set or in three separate specialty-specific two-volume sets.

For prices and more information please contact Arnold Publishers on: Tel. 020 7873 6355, Fax. 020 7873 6299, E-Mail. [healthsci.marketing@hodder.co.uk](mailto:healthsci.marketing@hodder.co.uk); Web. [www.clinicalpainmanagement.com](http://www.clinicalpainmanagement.com)



**Genetics and human behaviour: the ethical context**

Embryos should not be selected for behavioural traits such as intelligence on the basis of genetic information, according to a Report published recently by the Nuffield Council on Bioethics. The Report, Genetics and human behaviour: the ethical context, looks at ethical, legal and social issues raised by research into behavioural genetics.

Research to find out how our genes influence behaviour is complex and controversial. "This is a potentially explosive area," says Professor Bob Hepple, QC, Chairman of the Working Party and Master of Clare College, Cambridge, "and the first question we asked was whether such research should be carried out at all. We concluded that it can be justified because it has the potential to advance our understanding of human behaviour. However, it is important to create safeguards to protect against its misuse."

The Working Party assessed the evidence of associations between genetic variants and behaviour, considering traits such as intelligence, antisocial behaviour, personality traits and sexual orientation. Despite a number of highly publicised claims, no gene has been shown conclusively to influence antisocial behaviour, intelligence in the normal range, or sexual orientation.

"It is unlikely that variation in just one gene contributes to a trait," says Professor Hepple. "Many genes are likely to be involved and the environment also plays an important role. We should not overestimate the predictive power of genes," he continues. "The effects of genes are not inevitable."

Copies of the Report can be downloaded from the Council's website, [www.nuffieldbioethics.org](http://www.nuffieldbioethics.org)

For a printed copy, E-Mail. [bioethics@nuffieldfoundation.org](mailto:bioethics@nuffieldfoundation.org), or Tel. 020 7681 9619.

**NEW - Evidence-based Dementia Practice**

Edited by leading clinicians involved in the care of patients with dementia and the evaluation of new therapies, Evidence-based Dementia Practice draws together the latest, best and practical evidence on all aspects of management of this distressing condition, from diagnosis and therapy to social and ethical considerations. This important new book, along with a selection of related titles in neurology, are now available to readers of ACNR at specially discounted prices.

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