



THE CANADIAN JOURNAL OF

# Neurological Sciences

LE JOURNAL CANADIEN DES

# Sciences Neurologiques

AN INTERNATIONAL JOURNAL / UN JOURNAL INTERNATIONAL

## EDITORIALS

399 Neurologists and the Numbers

*W.J. Becker*

401 The Pursuit of Excellence in Acute Stroke Care

*Brian Silver*

## REVIEW ARTICLES

403 Hypertension and Stroke: 2005 Canadian Hypertension Educational Program Recommendations

*J.M. Boulanger, Michael D. Hill on behalf of the Canadian Hypertension Educational Program*

409 The Epileptic Encephalopathies of Infancy and Childhood

*Elaine Wirrell, Kevin Farrell, Sharon Whiting*

419 Progress in Clinical Neurosciences: Measuring the Benefit of Therapies for Neurological Disorders

*Miguel Bussi re, Samuel Wiebe*

## ORIGINAL ARTICLES

425 Highlights of the 2002 Canadian Neurological Society Manpower Survey

*Peter Bailey, Sharon Warren, Lynda Buske*

433 tPA use for Stroke in the Registry of the Canadian Stroke Network

*Janel O. Nadeau, Steven Shi, Jiming Fang, Moira K. Kapral, Janice A. Richards, Frank L. Silver, Michael D. Hill on behalf of the investigators for the Registry of the Canadian Stroke Network*

440 The Numbers Needed to Treat for Neurology Disorders

*Miguel Bussi re, Samuel Wiebe*

450 Adult Onset Spinocerebellar Ataxia in a Canadian Movement Disorders Clinic

*Scott Kraft, Sarah Furtado, Ranjit Ranaway, Jillian Parboosingh, Stacey Bleoo, Karen McElligott, Peter Bridge, Sian Spacey, Shyamal Das,  ksana Suchowersky*

459 Visual Defects Associated with Vigabatrin: A Study of Epileptic Argentine Patients

*Mar a Cecilia Moreno, Brenda Giagante, Patricia Saidon, Silvia Kochen, Jorge Benozzi, Ruth E. Rosenstein*

465 The Reliability of Ultrasound Measurements of Carotid Stenosis Compared to MRA and DSA

*Colin Honish, Venkatraman Sadanand, Derek Fladeland, Vance Chow, Fahrhad Pirouzmand*

472 How Well Does Neurology Residency Mirror Practice?

*Fraser G.A. Moore, Colin Chalk*

477 Diffusion Tensor Imaging Abnormalities in Focal Cortical Dysplasia

*Donald W. Gross, Alexandre Bastos, Christian Beaulieu*

483 Processing and Interpretation Times of CT Angiogram and CT Perfusion in Stroke

*Ashok Srinivasan, Mayank Goyal, Cheemun Lum, Thanh Nguyen, William Miller*

487-528 (See Contents Pages)

## EXPERIMENTAL NEUROSCIENCES

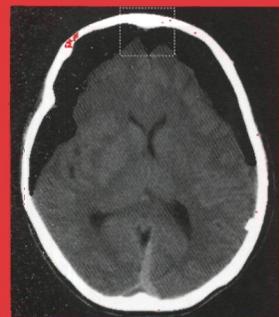
529 Cannabinoids and Dopamine Receptors' Action on Calcium Current in Rat Neurons

*C. V squez, R. Navarro-Polanco, G. Hern ndez, J. Ruiz, D.G. Guerra, L.M. Baltazar, M. Huerta, X. Trujillo*

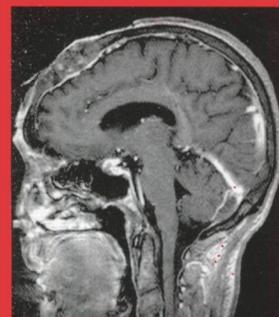
## NEUROIMAGING HIGHLIGHT

538 Submitted by: Jason Beiko, Patrick McDonald

CASE REPORTS (See Contents Pages)



Tension pneumocephalus



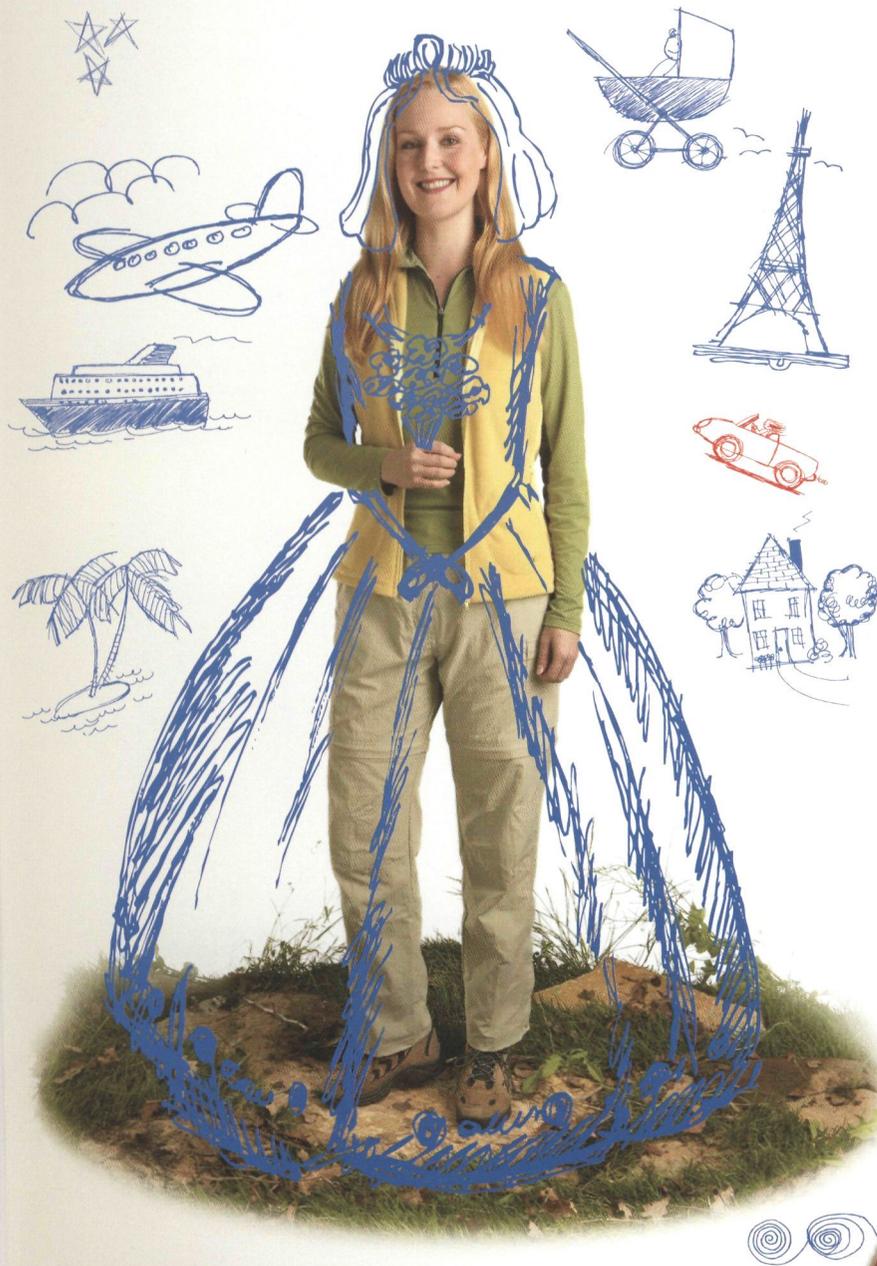
Basal cell carcinoma

CANADIAN  
CONGRESS OF  
NEUROLOGICAL  
SCIENCES

41st Annual  
Scientific  
Meeting

June 13 - 17, 2006  
Montreal, Quebec

# She Has Dreams. Controlling MS Could Help Her Live Them.



Jennifer M. is a MS patient who has been taking Rebif® since 1999. She lives in Vancouver.

In PRISMS 4 – Patients treated early attained more benefit at 4 years than those delaying treatment.<sup>1,2\*</sup>

- Rebif® 44mcg x3 reduced the number and severity of MS relapses.<sup>1,2\*</sup>
- Time to sustained disability progression was prolonged by 18 months in the Rx44 group. (42.1 months vs. 24.2 months, p=0.047)<sup>2</sup>

Rebif® is indicated for the treatment of relapsing forms of multiple sclerosis, to reduce the number and severity of clinical exacerbations, slow the progression of physical disability, reduce the requirement for steroids, and reduce the number of hospitalizations for treatment of multiple sclerosis and reduction in T<sub>1</sub>-Gd enhanced and T<sub>2</sub> (burden of disease) as seen on MRI.<sup>1</sup> The most common adverse events reported in controlled clinical trials with high-dose Rebif® (44mcg x3) are: injection site inflammation 66.5%, injection site reaction 31.7%, injection site pain 13.8%, upper respiratory tract infections 20.4%, headache 46.7%, flu-like symptoms 42.5%, fatigue 27.5%, and fever 12.0%. Evidence of safety and efficacy derived from 3- and 4-year data.<sup>1</sup>

\* Randomized, 4-year, placebo-controlled study. Patients receiving placebo in first 2 years were randomized to blinded interferon β-1a, 22 or 44mcg x3 (n=172; crossover group) while others remained on assigned dose 22mcg (Rx22 group) or 44mcg (Rx44 group) (n=167 per group). Patients had 3- to 6-month clinical and annual MRI assessments.

Rebif® is a registered trademark of Serono Canada Inc.



**Pr Rebif® 44<sub>mcg</sub>x3.**  
Interferon beta-1a

Because life is more than MS

For brief prescribing information see pages A-18, A-19



THE CANADIAN JOURNAL OF

# Neurological Sciences

LE JOURNAL CANADIEN DES

# Sciences Neurologiques

## EDITORIALS

- 399** Neurologists and the Numbers

*W.J. Becker*

- 401** The Pursuit of Excellence in Acute Stroke Care

*Brian Silver*

## REVIEW ARTICLES

- 403** Hypertension and Stroke: 2005 Canadian Hypertension Educational Program Recommendations

*J.M. Boulanger, Michael D. Hill on behalf of the Canadian Hypertension Educational Program*

- 409** The Epileptic Encephalopathies of Infancy and Childhood

*Elaine Wirrell, Kevin Farrell, Sharon Whiting*

- 419** Progress in Clinical Neurosciences: Measuring the Benefit of Therapies for Neurological Disorders

*Miguel Bussière, Samuel Wiebe*

## ORIGINAL ARTICLES

- 425** Highlights of the 2002 Canadian Neurological Society Manpower Survey

*Peter Bailey, Sharon Warren, Lynda Buske*

- 433** tPA use for Stroke in the Registry of the Canadian Stroke Network

*Janel O. Nadeau, Steven Shi, Jiming Fang, Moira K. Kapral, Janice A. Richards, Frank L. Silver, Michael D. Hill on behalf of the investigators for the Registry of the Canadian Stroke Network*

- 440** The Numbers Needed to Treat for Neurology Disorders

*Miguel Bussière, Samuel Wiebe*

- 450** Adult Onset Spinocerebellar Ataxia in a Canadian Movement Disorders Clinic

*Scott Kraft, Sarah Furtado, Ranjit Ranawaya, Jillian Parboosingh, Stacey Bleoo, Karen McElligott, Peter Bridge, Sian Spacey, Shyamal Das, Oksana Suchowersky*

- 459** Visual Defects Associated with Vigabatrin: A Study of Epileptic Argentine Patients

*María Cecilia Moreno, Brenda Giagante, Patricia Saidon, Silvia Kochen, Jorge Benozzi, Ruth E. Rosenstein*

- 465** The Reliability of Ultrasound Measurements of Carotid Stenosis Compared to MRA and DSA

*Colin Honish, Venkatraman Sadanand, Derek Fladeland, Vance Chow, Fahrad Pirouzmand*

- 472** How Well Does Neurology Residency Mirror Practice?

*Fraser G.A. Moore, Colin Chalk*

- 477** Diffusion Tensor Imaging Abnormalities in Focal Cortical Dysplasia

*Donald W. Gross, Alexandre Bastos, Christian Beaulieu*

- 483** Processing and Interpretation Times of CT Angiogram and CT Perfusion in Stroke

*Ashok Srinivasan, Mayank Goyal, Cheemun Lum, Thanh Nguyen, William Miller*

- 487** Vertebroplasty in Osteoporotic Spine Fractures: A Quality of Life Assessment

*Krishna Kumar, A.K. Verma, Jefferson Wilson, Alika LaFontaine*

- 496** The Impact of a Stroke Prevention Clinic in Diagnosing Modifiable Risk Factors for Stroke

*Mikael S. Mouradian, Muhammad S. Hussain, Harris Lari, Abdul Salam, Ambikaipakan Senthilselvan, Naeem Dean, Ashfaq Shuaib*

- 501** Management of Chronic Subdural Hematoma: A National Survey and Literature Review

*Aleksa Cenic, Mohit Bhandari, Kesava Reddy*

- 507** Intra-arterial Thrombolysis for Retinal Artery Occlusion: The Calgary Experience

*J.A. Pettersen, M.D. Hill, A.M. Demchuk, W. Morrish, M.E. Hudon, W. Hu, J. Wong, P.A. Barber, A.M. Buchan*

- 512** A Rehabilitation Program for Patients Recovering from Severe Stroke

*Robert W. Teasell, Norine C. Foley, Sanjit K. Bhogal, Raja Chakraverty, Anna Bluvol*

- 518** A Reappraisal of Rhythmic Coma Patterns in Children

*Rajesh RamachandranNair, Rohit Sharma, Shelly K. Weiss, Hiroshi Otsubo, Miguel A. Cortez*



THE CANADIAN JOURNAL OF

# Neurological Sciences

LE JOURNAL CANADIEN DES

# Sciences Neurologiques

- 524** Use of Complementary and Alternative Medical Therapies in a Pediatric Neurology Clinic

*Isaac Soo, Jean K. Mah, Karen Barlow, Lorie Hamiwka, Elaine Wirrell*

## EXPERIMENTAL NEUROSCIENCES

- 529** Cannabinoids and Dopamine Receptors' Action on Calcium Current in Rat Neurons

*C. Vásquez, R. Navarro-Polanco, G. Hernández, J. Ruiz, D.G. Guerra, L.M. Baltazar, M. Huerta, X. Trujillo*

## NEUROIMAGING HIGHLIGHT

- 538** Submitted by: Jason Beiko, Patrick McDonald

## CASE REPORTS

- 540** Prognostic Indicators in an Aggressive Pituitary Crooke's Cell Adenoma

*K. Kovacs, C.C. Diep, E. Horvath, M. Cusimano, H. Smyth, C. Coire, M. Lombardero, B.W. Scheithauer, R.V. Lloyd*

- 546** Intracranial Invasion of a Basal Cell Carcinoma of the Scalp

*David Mathieu, David Fortin*

## ABSTRACTS

- 549** Canadian Association of Neuropathologists - Abstracts of papers and cases presented at the Forty-Fifth Annual Meeting in St. John's, Newfoundland

- 557** Books Received

- 557** Book Reviews

- 561** Calendar of Events

- 562** Notes and Announcements

- 563** Author and Subject Index to Volume 32 - 2005

- A-17** Information for Authors

- A-36** Advertisers Index

Visit Our Website at:  
[www.cjns.org](http://www.cjns.org)

We acknowledge the financial support of the Government of Canada through the Publications Assistance Program towards our mailing costs.

Canada

# Optimize Dosing... To Help Maximize Outcomes In Parkinson's Therapy<sup>1</sup>



Titrate to help maximize patient benefit. In at least 75% of the patients who responded to REQUIP®, doses of up to 9 mg/day were necessary to ensure a first therapeutic response.<sup>1x</sup>

## Three Reasons to Prescribe REQUIP®

### REQUIP® delayed the use of L-dopa

34% (n=29 of 85) of REQUIP® monotherapy patients completed the entire 5-year study without requiring L-dopa supplementation<sup>2a</sup>

### Low risk of dyskinesia

Only 5% of REQUIP® monotherapy patients developed dyskinesia compared with 36% of L-dopa patients<sup>2\*</sup>

### Low supplementary dose of L-dopa needed

When used with adjunct L-dopa, REQUIP® patients required an average of 43% less L-dopa (427 ± 221 mg) than patients on L-dopa alone (753 ± 398 mg)<sup>2</sup>

<sup>a</sup> In early treatment of Parkinson's disease over the course of a 5-year multicentre, prospective, double-blind, flexible-dose study, with 268 patients randomized to either REQUIP® (n=179) or L-dopa and benserazide (a decarboxylase inhibitor) (n=89). Open label L-dopa was available as supplementary medication.<sup>2,3</sup> p<0.001

\* Prior to supplementation with L-dopa

<sup>x</sup> Data from 3 large phase III double-blind trials of ropinirole monotherapy in early Parkinson's disease were examined: a 5-year L-dopa-controlled trial (n=179), a 3-year bromocriptine-controlled trial (n=168), both with planned interim analysis and a 6-month placebo-controlled trial (n=116).<sup>1</sup>

† Please consult the Warnings section of the Product Monograph.<sup>3</sup>

© REQUIP is a registered trademark, used under license by GlaxoSmithKline Inc.

References: 1. Korczyn AD *et al.* Dosing with ropinirole in a clinical setting. *Acta Neurologica Scandinavica* 2002;106:200-204. 2. Rascol O *et al.* A five-year study of the incidence of dyskinesia in patients with early Parkinson's disease who were treated with ropinirole or levodopa. *N Eng J Med* 2000;342(20):1484-1491. 3. Product Monograph of REQUIP® (ropinirole hydrochloride), GlaxoSmithKline, March 2004.

REQUIP® (ropinirole hydrochloride) is indicated in the treatment of the signs and symptoms of idiopathic Parkinson's disease. REQUIP® can be used both as early therapy, without concomitant levodopa and as an adjunct to levodopa. Patients receiving treatment with REQUIP® and other dopaminergic agents have reported the sudden onset of sleep while engaged in daily activities. Patients should be warned not to drive or engage in other activities where impaired alertness could put themselves or others at risk.<sup>3†</sup>

Adverse events occurring with an incidence of greater than, or equal to, 10% were as follows: *Early therapy*: nausea, dizziness, somnolence, headache, peripheral edema, vomiting, syncope, fatigue and viral infection. *Adjunct therapy*: dyskinesia, nausea, dizziness, somnolence and headache. REQUIP® is contraindicated in patients with a known hypersensitivity to ropinirole hydrochloride or the excipients of the drug product.<sup>3</sup>

ropinirole®  
**REQUIP**

Rethinking Parkinson's.



THE CANADIAN JOURNAL OF

# Neurological Sciences

LE JOURNAL CANADIEN DES

# Sciences Neurologiques

**Editor-in-Chief/Rédacteur en chef**

Douglas W. Zochodne CALGARY, AB

**Associate Editors/Rédacteurs associés**

William A. Fletcher CALGARY, AB

Andres M. Lozano TORONTO, ON

**Past Editors/Anciens rédacteurs en chef**

James A. Sharpe TORONTO, ON

Robert G. Lee CALGARY, AB

Robert T. Ross WINNIPEG, MB

(Emeritus Editor, Founding Editor)

**Editorial Board/Conseil Scientifique**

Timothy J. Benstead HALIFAX, NS

J. Gregory Cairncross CALGARY, AB

Richard Desbiens QUEBEC CITY, QC

J. Max Findlay EDMONTON, AB

Ian Fleetwood HALIFAX, NS

Hans-Peter Hartung DUSSELDORF, GERMANY

Alan C. Jackson KINGSTON, ON

Jack Jhamandas EDMONTON, AB

Daniel Keene OTTAWA, ON

Douglas Kondziolka PITTSBURGH, PA, USA

Terence Myles CALGARY, AB

David Ramsay LONDON, ON

Peter M. Richardson LONDON, UK

Guy Rouleau MONTREAL, QC

Michael Shevell MONTREAL, QC

Paul Steinbok VANCOUVER, BC

Oksana Suchowersky CALGARY, AB

Samuel Wiebe LONDON, ON

G. Bryan Young LONDON, ON

**SECTION EDITORS/CONSEIL DE RÉDACTION**

**Neuroimaging Highlight/Neuroimagerie**

Mark Hudon CALGARY, AB

Richard Farb TORONTO, ON

**Neuropathological Conference/Conférence sur la neuropathologie**

David Ramsay LONDON, ON

**Book Review/Critiques de livres**

Andrew Kirk SASKATOON, SK

**Electronic Editor/Rédacteur d'électronique**

Daniel Keene OTTAWA, ON

**Executive Director/Gérant directrice**

Sally A. Gregg CALGARY, AB

**Publications Committee/Comité de Rédaction**

Samuel Wiebe LONDON, ON

David Fortin SHERBROOKE, QC

Noel Lowry SASKATOON, SK

Richard McLachlan LONDON, ON

**The official journal of: / La Revue officielle de:**

**The Canadian Neurological Society  
La Société Canadienne de Neurologie**

**The Canadian Neurosurgical Society  
La Société Canadienne de Neurochirurgie**

**The Canadian Society of Clinical Neurophysiologists  
La Société Canadienne de Neurophysiologie Clinique**

**The Canadian Association of Child Neurology  
L'Association Canadienne de Neurologie Pédiatrique**

The permanent secretariat for the four societies and the Canadian Congress of Neurological Sciences is at:

Le secrétariat des quatre associations et du Congrès Canadien des Sciences Neurologiques est situé en permanence à:  
7015 Macleod Trail SW, Suite 709, Calgary AB, Canada T2H 2K6,

The Canadian Journal of Neurological Sciences is published quarterly. The annual subscription rate for individuals are: C\$80 (Canada), US\$80 (USA), and US\$85 (elsewhere). Subscription rates for institutions are: C\$90 (Canada), US\$90 (USA), and US\$95 (elsewhere). Resident, intern and student rates are available. See [www.cjns.org](http://www.cjns.org) for details. Single copies C\$22 each plus postage and handling. All manuscripts and communications should be sent to: Canadian Journal of Neurological Sciences, P.O. Box 5456, Station A, Calgary, AB Canada T2H 1X8. Courier to: 709 - 7015 Macleod Trail SW, Calgary, AB Canada T2H 2K6. Telephone (403) 229-9575; Fax (403) 229-1661. E-mail: [journal@cjns.org](mailto:journal@cjns.org); Website: [www.cjns.org](http://www.cjns.org)  
COPYRIGHT © 2005 by THE CANADIAN JOURNAL OF NEUROLOGICAL SCIENCES INC. All rights reserved. No part of this journal may be reproduced in any form without the prior permission of The Canadian Journal of Neurological Sciences. Mailed under Publications Mail Agreement no: 40007777; Registration no: 09824. Postage paid at Calgary, Alberta. This journal is indexed by *Aquatic Sciences and Fisheries Abstracts*, *ASCA - Automatic Subject Citation Alert*, *Biological Abstracts*, *Chemical Abstracts*, *Current Advances in Ecological Sciences*, *Current Contents (Clinical Medicine and Life Sciences)*, *Dent. Index*, *e-psyche*, *Excerpta Medica*, *Index Medicus*, *Industrial Science Review*, *INIS Atomindex*, *Inpharma*, *Journal Watch Neurology*, *International Abstracts in Biological Sciences*, *Laboratory Hazards Bulletin*, *Neurosciences Citation Index*, *Nutrition Abstracts*, *Nutrition Research Newsletter*, *Pharmacoeconomics and Outcome News*, *Reactions Weekly*, *Referativnyi Zhurnal*, *Science Citation Index*, *Weed Abstracts*

Le Journal Canadien des Sciences Neurologiques est publié trimestriellement. L'abonnement annuel est de 80 \$C (non-membres au Canada); 80 \$É-U (Etats Unis) et 85 \$É-U (ailleurs); l'abonnement annuel pour les institutions est de 90 \$C (non-membres au Canada); 90 \$É-U (Etats Unis) et 95 \$É-U (ailleurs); Internes, résidents, fellows pré et post doctoral voir [www.cjns.org](http://www.cjns.org) pour détails. Copie simple: 22 \$C plus affranchissement et manutention. Toutes les communications et les manuscrits doivent être adressés à Journal Canadien des Sciences Neurologiques, P.O. Box 5456, Station A, Calgary, AB Canada T2H 1X8. Par courrier: 709 - 7015 Macleod Trail SW, Calgary, AB Canada T2H 2K6. Téléphone (403) 229-9575; Fax (403) 229-1661. E-mail: [journal@cjns.org](mailto:journal@cjns.org); Website: [www.cjns.org](http://www.cjns.org)  
DROITS D'AUTEUR © 2005: THE CANADIAN JOURNAL OF NEUROLOGICAL SCIENCES INC. Tous droits réservés. Aucune partie de ce Journal ne peut être reproduite, sous quelque forme que ce soit, sans la l'autorisation du Journal Canadien des Sciences Neurologiques. Posté sous poste-publications: numéro de convention: 40007777; numéro d'enregistrement 09824. Port payé à Calgary, Alberta. Le Journal est cité et indexé dans *Aquatic Sciences and Fisheries Abstracts*, *ASCA - Automatic Subject Citation Alert*, *Biological Abstracts*, *Chemical Abstracts*, *Current Advances in Ecological Sciences*, *Current Contents (Clinical Medicine and Life Sciences)*, *Dent. Index*, *e-psyche*, *Excerpta Medica*, *Index Medicus*, *Industrial Science Review*, *INIS Atomindex*, *Inpharma*, *Journal Watch Neurology*, *International Abstracts in Biological Sciences*, *Laboratory Hazards Bulletin*, *Neurosciences Citation Index*, *Nutrition Abstracts*, *Nutrition Research Newsletter*, *Pharmacoeconomics and Outcome News*, *Reactions Weekly*, *Referativnyi Zhurnal*, *Science Citation Index*, *Weed Abstracts*.

**Advertising representative/Représentant de publicité:**

Sally Gregg, Canadian Journal of Neurological Sciences  
709 - 7015 Macleod Trail SW, Calgary, AB Canada T2H 2K6  
Tel (403) 229-9575 Fax (403) 229-1661

E-mail: [journal@cjns.org](mailto:journal@cjns.org); Web Site: [www.cjns.org](http://www.cjns.org)

**Printer/Imprimeur:**

Sundog Printing Limited, 1311 Ninth Avenue SW, Calgary, Alberta T3C 0H9

ISSN 0317 - 1671

For the treatment of RRMS  
**COPAXONE®**. With your patients for  
the long run.



**Demonstrated impact on disability**

- COPAXONE®-treated patients had a mean reduction in EDSS scores of -0.05 compared with an increase in EDSS scores of +0.21 in the placebo group over 2 years  
({n=125} vs. {n=126} placebo, p=0.023)<sup>1</sup>

**Reduced relapse rates\***

- 35% reduction at 9 months  
(0.50 {n=113} vs. 0.77 {n=115} placebo, mean, p=0.0077)<sup>1</sup>
- 75% reduction at 2 years  
(0.60 {n=25} vs. 2.40 {n=25} placebo, mean, p=0.005)<sup>1</sup>

\*Two independent studies

**Established safety profile**

- Demonstrated for over 7 years in clinical trials<sup>1</sup>
- No recommended monitoring of liver and thyroid function or complete blood count<sup>1</sup>

COPAXONE® is indicated for use in ambulatory patients with Relapsing-Remitting Multiple Sclerosis (RRMS) to reduce the frequency of relapses.

The safety and efficacy of COPAXONE® in chronic progressive MS have not been established.

The most commonly observed adverse events associated with the use of COPAXONE® in controlled trials which occurred at higher frequency than placebo were: injection site reactions (2.4-66.4% vs. 0-36.5%), vasodilation (27.2% vs. 11.1%), chest pain (26.4% vs. 10.3%), asthenia (64.8% vs. 61.9%), infection, pain, nausea (23.2% vs. 17.5%), arthralgia (24.8% vs. 17.5%), anxiety and hypertonia (35.2% vs. 29.4%).



**COPAXONE®**  
(glatiramer acetate injection)

Treating RRMS for the long run.



COPAXONE® is a registered trademark of Teva Pharmaceutical Industries Ltd. and is used under licence.  
TEVA and the design version thereof are trademarks of Teva Pharmaceutical Industries Ltd. and are used under licence.  
©2005 Teva Neuroscience G.P. - S.E.N.C.,  
Montreal, Quebec H3A 3L4





the

† 28-week, randomized, multicentre, double-blind, parallel-group, placebo-controlled U.S. study in patients ( $\geq 50$  years) with moderate to severe Alzheimer's disease. Patients were randomized to treatment with EBIXA<sup>®</sup> 20 mg daily (n=126) or placebo (n=126).

\* Function was measured on the Alzheimer's Disease Cooperative Study - Activities of Daily Living Inventory (ADCS-ADL<sub>...</sub>) scale with LOCF data - Change from baseline at study endpoint for EBIXA<sup>®</sup> vs. placebo: 2.1 units, p=0.02.

\*\* Cognition was measured on the Severe Impairment Battery (SIB) with LOCF data - Change from baseline at study endpoint for EBIXA<sup>®</sup> vs. placebo: 5.9 units, p<0.001.

Ω Less caregiver time was needed per month (45.8 hrs) for patients treated with EBIXA<sup>®</sup> vs. placebo, p=0.01.

§ Restrictions exist. Please refer to your formulary for details.

1. Cummings JL. Alzheimer's disease (review). *N Engl J Med* 2004;351:56-67. 2. EBIXA<sup>®</sup> Product Monograph. Lundbeck Canada Inc., 2004. 3. Reisberg B, Doody R, Stöffler A, Schmitt F, Ferris S, Möbius HJ for the Memantine Study Group. Memantine in Moderate-to-Severe Alzheimer's Disease. *N Engl J Med* 2003;348(14):1333-1341.

Registered trademark of Merz Pharma GmbH. Under license to Lundbeck Canada Inc.



# I've been living with Alzheimer's disease for three years.

My mother has the disease. But I feel just as helpless. Only someone who takes care of the patient truly knows how debilitating Alzheimer's disease is.<sup>1</sup> Introducing EBIXA<sup>®</sup>.

- A new class of therapy<sup>2</sup>
- Effective in moderate to severe stages<sup>2</sup>
- Extended daily functioning (ADCS-ADL<sub>sev</sub>)<sup>2,3\*\*</sup> and cognition (SIB)<sup>2,3\*\*\*</sup> vs. placebo
- Excellent safety and tolerability profile<sup>2</sup>
- 45.8 hrs less caregiver time demonstrated per month vs. placebo<sup>3Q</sup>

A new hope for patients with moderate to severe Alzheimer's disease.

---

EBIXA<sup>®</sup>, indicated for the symptomatic treatment of patients with moderate to severe dementia of the Alzheimer's type, has been issued marketing authorization with conditions, to reflect the promising nature of the clinical evidence and the need for a confirmatory study to verify the clinical benefit. Patients should be advised of the nature of the authorization assessment.

---

**NEW** <sup>Pr</sup> **Ebixa**<sup>®</sup>  
memantine  
A Name To Remember

**Most common adverse events vs. placebo: dizziness (6.9% vs. 4.6%), constipation (6.1% vs. 3.5%), confusion (5.7% vs. 5.5%), and headache (5.6% vs. 3.6%).**

EBIXA<sup>®</sup> (memantine hydrochloride) may be useful as monotherapy or as adjunctive therapy with cholinesterase inhibitors<sup>Q</sup> for the symptomatic treatment of patients with moderate to severe dementia of the Alzheimer's type. EBIXA<sup>®</sup> has not been studied in controlled clinical trials for the symptomatic treatment of moderate to severe Alzheimer's disease for more than 6 months. There is no clinical evidence that EBIXA<sup>®</sup> alters the course of the underlying disease. Periodic monitoring of the patient's ophthalmic condition is recommended.

Caution should be observed when EBIXA<sup>®</sup> is initiated in patients with cardiovascular conditions or in patients with a history of seizure disorder as these patient groups were not included in the clinical trials.

The renal elimination rate of EBIXA<sup>®</sup> under alkaline urine conditions may be reduced by a factor of 7 to 9, resulting in increased plasma levels of EBIXA<sup>®</sup>.



<sup>Q</sup> Cholinesterase inhibitors refers to only those which are approved in Canada for the symptomatic treatment of Alzheimer's disease.



# Neuropathic Pain Scalded From Within

LYRICA is contraindicated in patients who are hypersensitive to pregabalin or to any ingredient in the formulation or component of the container.

The most commonly observed adverse events (twice the rate as that seen with placebo) were dose related for PHN and DPN patients in the recommended dose range of 150 mg/day to 600 mg/day: dizziness (9-37%), somnolence (6.1-24.7%), peripheral edema (6.1-16.2%) and dry mouth (1.9-14.9%).

**Dosage reduction is required in patients with renal impairment as pregabalin is primarily eliminated by renal excretion.**

✦ Pharmacodynamic interactions were reported with oxycodone, lorazepam, ethanol and thiazolidinedione antidiabetic agents. Please consult Prescribing Information for complete interaction information.

Please see Prescribing Information for complete Warnings and Precautions, Dosage and Administration, and patient selection criteria.

† A 13-week, multicentre, double-blind, placebo-controlled trial in 368 patients with PHN. A significant difference was shown over placebo for all doses: 150 mg/day, 300 mg/day, and 600 mg/day at week 1,  $p < 0.001$  for pain and  $p < 0.01$  for sleep.

‡ A 12-week, multicentre, randomised, double-blind, placebo-controlled study in 338 patients with neuropathic pain (DPN [n=249] or PHN [n=89]), resulting in a significant difference from placebo in the flexible dose range 150-600 mg/day ( $p \leq 0.05$ , week 2 and  $p \leq 0.01$ , weeks 3-12), and the fixed dose of 600 mg/day ( $p \leq 0.05$ , week 1 and  $p \leq 0.01$ , weeks 2-12).

# New

# LYRICA<sup>®</sup>

## PREGABALIN

LYRICA is indicated for the management of neuropathic pain associated with<sup>1</sup>:

- Diabetic peripheral neuropathy
- Postherpetic neuralgia



## Demonstrated **fast, sustained** neuropathic pain relief

- Rapid neuropathic pain relief shown in patients with PHN as early as Week 1<sup>2†</sup>
- Sustained neuropathic pain relief demonstrated over 3 months<sup>3‡</sup>
- Rapid improvement in pain-related sleep interference observed in patients with PHN as of Week 1<sup>2†</sup>
- No clinically significant pharmacokinetic drug interactions reported<sup>1\*</sup>
- Simple dosing regimen<sup>1</sup>



©2005  
Pfizer Canada Inc.  
Kirkland, Quebec  
H9J 2M5

\*TM C.P. Pharmaceuticals International C.V.  
Pfizer Canada Inc., licensee



New  
**LYRICA<sup>®</sup>**  
PREGABALIN  
*Fast onset. Sustained relief.*

For brief prescribing information  
see pages A-26, A-27, A-28, A-29



**100,000 Patients Treated**

**and Counting...**

To date, over 100,000 patients have been treated with **Balloon Kyphoplasty** – isn't it time you offered your patients the chance to stand up and be counted?

Using its proprietary balloon technology, Kyphon develops and markets innovative medical devices for spinal applications. **Balloon Kyphoplasty** is a minimally invasive procedure designed to restore vertebral body height and correct angular deformity in patients with compression fractures due to osteoporosis or cancer. Patient outcomes include significant and sustained reduction in back pain, increased mobility and improved quality of life.



For complete information regarding indications for use, precautions and methods of use, please reference the devices' Instructions for Use. *Kyphon* is a registered trademark of Kyphon Inc. *Ahead of the Curve* is a trademark of Kyphon Inc. ©2005 Kyphon Inc. All rights reserved. 16000431-01

**1-877-459-7466**

**WWW.KYPHON.COM**

**KYPHON**  
AHEAD OF THE CURVE™

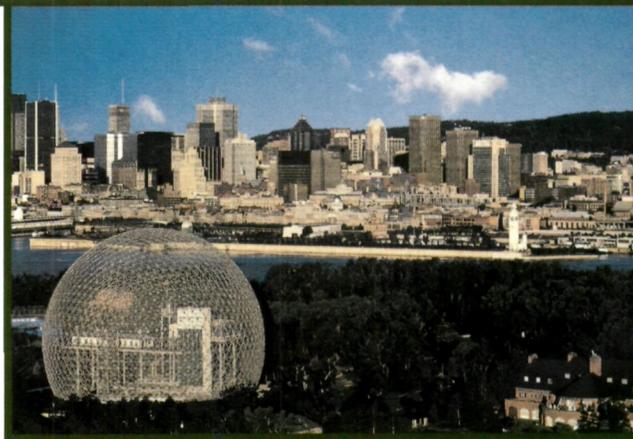


Photo credits: Tourisme Montréal

**JOIN US IN MONTREAL FOR THE  
41ST MEETING OF THE CANADIAN CONGRESS  
OF NEUROLOGICAL SCIENCES  
JUNE 13 – 17, 2006**



sanofi aventis

Because health matters

# PORTRAIT OF A FAMILY HISTORY

## HISTORY DOESN'T HAVE TO REPEAT ITSELF

Roger,  
History of  
angina.

Died age 57  
of MI.

Help Reduce the  
Risk of CV Death

by **26%**<sup>1</sup>

( $p < 0.001$ ; 6.1% vs. 8.1%)

Alice,  
History of  
diabetes and  
high total  
cholesterol.

Died age 62  
of stroke.



**ALTACE 10 mg**  
ramipril

GUARDING AGAINST CV DEATH

ALTACE is indicated in the treatment of essential hypertension, normally when beta-blockers and diuretics are inappropriate. It may be used alone or in association with thiazide diuretics. ALTACE is indicated following acute myocardial infarction in clinically stable patients with signs of left ventricular dysfunction to improve survival and reduce hospitalizations for heart failure.

Results from the HOPE study showed that ALTACE improved survival in patients by reducing the risk of CV death by 26% ( $p < 0.001$ ; 6.1% vs. 8.1%). ALTACE may be used to reduce the risk of MI, stroke, or CV death in patients over age 55 who are at high risk of CV events because of a history of CAD, stroke, peripheral artery disease, or diabetes accompanied by at least 1 other CV risk factor such as hypertension, elevated total cholesterol levels, low HDL levels, cigarette smoking, or documented microalbuminuria.

Like other ACE inhibitors, ALTACE is not recommended for pregnant or lactating women and should be used with caution in patients with renal insufficiency. The most frequent adverse events occurring in clinical trials with ALTACE monotherapy in hypertensive patients who were treated for at least 1 year ( $n = 651$ ) were: headache (15.1%); dizziness (3.7%); asthenia (3.7%); chest pain (2.0%). Discontinuation of therapy due to clinical adverse events was required in 5 patients (0.8%).

The reasons for stopping treatment were cough (ramipril 7.3% vs. placebo 1.8%); hypotension/dizziness (1.9% vs. 1.5%) and edema (0.4% vs. 0.2%).

### ALTACE is the most prescribed ACEI in Canada and the ACEI most prescribed by cardiologists.\*

\*IMS Health Canada: Canadian CompuScript Audit, Moving Annual Total ending March 2005, Total Dispensed Prescriptions.

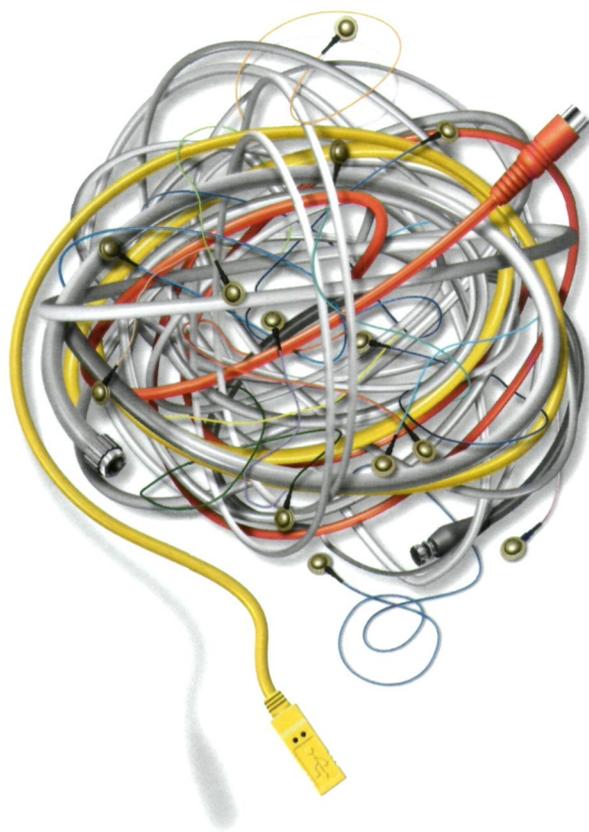


Product Monograph available to physicians and pharmacists upon request.

© Registered trade-mark of Aventis Group. Used under licence by Aventis Pharma Inc., Laval, Quebec H7L 4A8.

Aventis Pharma Inc., member of the sanofi-aventis Group.

## From uncontrolled



Kepra —  
connecting excellent  
profiles in efficacy  
and tolerability

### Effective control of seizures

- Shown to provide up to 4 out of 10 refractory patients with  $\geq 50\%$  reduction in partial onset seizures ( $p < 0.001$ )
- Rapid clinical improvement demonstrated by week 2 during a 14-week evaluation period ( $p < 0.001$ )<sup>17</sup>

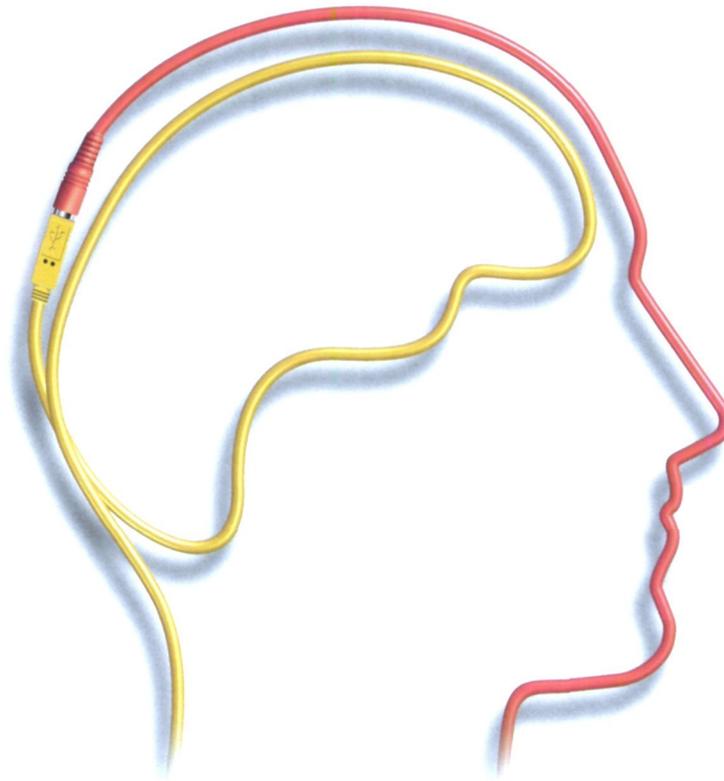
Kepra is indicated as adjunctive therapy in the management of patients with epilepsy who are not satisfactorily controlled by conventional therapy.

The most significant CNS adverse events were somnolence (Kepra 15% vs placebo 10%) and asthenia (Kepra 14% vs placebo 10%), behavioural/psychiatric symptoms (nonpsychotic: Kepra 14% vs placebo 6%; psychotic: Kepra 1% vs placebo 0%) and coordination difficulties (Kepra 3% vs placebo 2%). These adverse events were observed in controlled clinical trials with concomitant AEDs.



For more information, please refer to the complete Kepra Product Monograph.  
© Kepra is a registered trademark of UCB SA. Distributed by Lundbeck Canada Inc. 

to control



### Generally well tolerated

- Favourable side effect profile
- Adverse events not dose dependent<sup>†</sup>
- Low discontinuation or dosage reduction (Keppra 14.3% vs placebo 11.7%) due to adverse events<sup>†</sup>

### Efficacy and manageability right from the start

- Starting dose of 1000 mg/day (500 mg bid) shown to be effective and may be adjusted to a maximum of 3000 mg/day if required
- No blood level monitoring required
- No drug/drug interactions<sup>§</sup> with other AEDs, warfarin, digoxin or between Keppra 500 mg bid and a combination oral contraceptive (0.03 mg ethinyl estradiol and 0.15 mg levonorgestrel)<sup>¶</sup>

¶ Note: Pharmacokinetic interaction studies with contraceptives have not been conducted covering the full recommended dosage range of Keppra. Physicians should advise their female patients to be alert to any irregular vaginal bleeding or spotting and report any occurrences.

\* Restrictions may exist by province. Please refer to your formulary for details.

† Data from a 38-week multicentre, randomised, add-on, double-blind, placebo-controlled, parallel-group trial. Study consisted of a 4-week titration period followed by a 14-week evaluation period. Patients received either levetiracetam 1000 mg/day (n = 98), 3000 mg/day (n = 101) or placebo (n = 95). Patient weekly seizure frequency was reduced over placebo, at week 2 of the evaluation period, by 24.9% (1.120/1.406) for Keppra 1000 mg/day and 38.6% (0.918/1.406) for Keppra 3000 mg/day. The percentage of patients achieving ≥ 50% seizure reduction from baseline after the 18-week titration and evaluation period was 7.4% for placebo, 37.1% for Keppra 1000 mg/day and 39.6% for Keppra 3000 mg/day.

‡ Based on observations in clinical studies.

§ C<sub>max</sub> of levetiracetam's metabolite (ucb L057) was approximately doubled in presence of probe-necid. Renal clearance of ucb L057 decreased by 60% in presence of probenecid.

**Keppra**<sup>®</sup>  
levetiracetam

CONNECTING EXCELLENT PROFILES IN  
EFFICACY AND TOLERABILITY

# La douleur neuropathique

# Ébouillanté de l'intérieur



LYRICA est contre-indiqué chez les patients qui présentent une hypersensibilité à la prégabaline ou à l'un des composants du produit ou du contenant.

Les effets indésirables signalés le plus souvent (fréquence 2 fois plus élevée qu'avec le placebo) chez les patients souffrant de névralgie postzostérienne ou de neuropathie diabétique périphérique étaient proportionnels à la dose dans l'intervalle posologique recommandé de 150 mg/jour à 600 mg/jour et ont été les suivants : étourdissements (9 - 37 %), somnolence (6,1 - 24,7 %), œdème périphérique (6,1 - 16,2 %) et sécheresse buccale (1,9 - 14,9 %).

Comme la prégabaline est éliminée principalement par le rein, il faut réduire la dose en présence d'une dysfonction rénale.

✖ Des interactions pharmacodynamiques ont été signalées avec l'oxycodone, le lorazépam, l'éthanol et les antidiabétiques de la classe des thiazolidinediones. Veuillez consulter les renseignements thérapeutiques pour obtenir l'information complète sur les interactions médicamenteuses.

Consulter les renseignements thérapeutiques pour obtenir l'information complète sur les mises en garde, les précautions, la posologie, le mode d'administration et les critères de sélection des patients.

† Essai multicentrique d'une durée de 13 semaines, mené à double insu avec placebo auprès de 368 patients souffrant de névralgie postzostérienne. La première semaine, on a observé une différence significative par rapport au placebo à toutes les doses (150 mg/jour, 300 mg/jour et 600 mg/jour);  $p < 0,001$  pour la douleur et  $p < 0,01$  pour le sommeil.

‡ Essai multicentrique d'une durée de 12 semaines, mené à double insu avec placebo après répartition aléatoire de 338 patients souffrant de douleur neuropathique (neuropathie diabétique périphérique [n = 249]; névralgie postzostérienne [n = 89]). Une différence significative a été observée par rapport au placebo dans tout l'intervalle posologique flexible de 150 à 600 mg/jour ( $p \leq 0,05$  pour la 2<sup>e</sup> semaine et  $p \leq 0,01$  pour les semaines 3 à 12) et à la dose quotidienne fixe de 600 mg ( $p \leq 0,05$  pour la 1<sup>re</sup> semaine et  $p \leq 0,01$  pour les semaines 2 à 12).

# Nouveau

**LYRICA**<sup>\*</sup>  
PRÉGABALINE

LYRICA est indiqué pour le traitement de la douleur neuropathique associée à<sup>1</sup> :

- la neuropathie diabétique périphérique
- la névralgie postzostérienne

## Soulagement **rapide** et **durable** démonstré de la douleur neuropathique

- Un soulagement rapide de la douleur neuropathique associée à la névralgie postzostérienne dès la première semaine<sup>2†</sup>
- Un soulagement durable de la douleur neuropathique démontré sur une période de 3 mois<sup>3\*</sup>
- Une atténuation rapide des perturbations du sommeil causées par la névralgie postzostérienne dès la première semaine<sup>2†</sup>
- Aucune interaction pharmacocinétique médicamenteuse d'importance clinique rapportée<sup>1\*</sup>
- Une posologie simple<sup>1</sup>

  
Notre passion, la vie

©2005  
Pfizer Canada Inc.  
Kirkland (Québec)  
H9J 2M5

\*M.C. de C.P. Pharmaceuticals International C.V.  
Pfizer Canada Inc., licencié

  
Membre  
R&D

**Nouveau**  
**LYRICA**<sup>\*</sup>  
PRÉGABALINE  
*Effet rapide. Soulagement soutenu.*

For brief prescribing information  
see pages A-26, A-27, A-28, A-29

Millimeters apart. Miles ahead.  
Only Elekta gives you the power.

Only Elekta gives you the ability to treat brain disorders with sub-millimeter accuracy that is three times more precise than the closest competitor. With 50 times more patients treated than any other technology, and 400 times more peer-reviewed articles, it's no wonder Leksell Gamma Knife® remains the most proven and trusted treatment for brain disorders...with equally strong results for your bottom line.

See compelling evidence – [www.elekta.com/proof](http://www.elekta.com/proof).

Fighting Serious Disease

Stereotactic  
Neurosurgery

Gamma Knife  
surgery

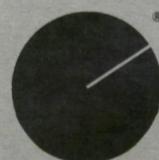
Functional  
Mapping

Precision  
Radiation Therapy

Image Guided  
Radiation Therapy

Stereotactic  
Radiation Therapy

[www.elekta.com](http://www.elekta.com)



ELEKTA