

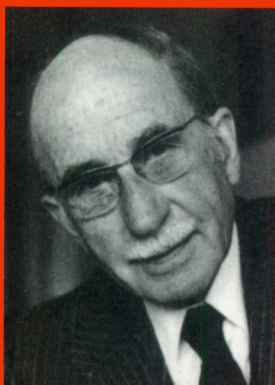
THE CANADIAN JOURNAL OF

# Neurological Sciences

LE JOURNAL CANADIEN DES

# Sciences Neurologiques

AN INTERNATIONAL JOURNAL / UN JOURNAL INTERNATIONAL



Herbert Jasper (1906-1999)

## REVIEW ARTICLE

- 163 The Time Course of Changes in Motor Cortex Excitability Associated with Voluntary Movement  
*Robert Chen and Mark Hallett*

## EDITORIAL

- 170 Coil Occlusion of Basilar Bifurcation Aneurysms: The Shape of Things to Come  
*Stephen P. Lownie*

## ORIGINAL ARTICLES

- 172 Endovascular Occlusion of Basilar Bifurcation Aneurysms With Electrolytically Detachable Coils  
*Gary Redekop, Robert Willinsky, Walter Montanera, Karel TerBrugge, Michael Tymianski and M Christopher Wallace*
- 182 Correlation of Neurologic Dysfunction with CT Findings in Early Acute Stroke  
*JN Scott, AM Buchan and RJ Sevick*
- 190 Historical and Clinical Features of Psychogenic Tremor: a Review of 70 Cases  
*Yun J Kim, Anthony S-I Pakiam and Anthony E Lang*
- 196 Clinical and Electrophysiological Study in French-Canadian Population with Charcot-Marie-Tooth Disease Type 1A Associated with 17p11.2 Duplication  
*Nicolas Dupré, Jean-Pierre Bouchard, Louise Cossette, Denis Brunet, Michel Vanasse, Bernard Lemieux, Gilles Mathon and Jack Puymirat*

## CASE REPORTS

- 201 Pseudo-Myasthenia Gravis and Thymic Hyperplasia in Graves' Disease  
*Michael W Nicolle*
- 204 Isolated Trigeminal Neuropathy due to Trigeminal Nerve Root Hemorrhage  
*S Almeida, C Chalk, J Minuk, R Del Carpio, M Guerin and M Levental*
- 207 Gangliogliomeneurocytoma of the Posterior Fossa  
*AM Alkhani, JM Bilbao, P Medline and FA Ogundimu*

## NEUROLOGICAL AND NEUROSURGICAL EDUCATION

- 211 Using Problem-Based Learning in Neurosciences Education for Medical Students  
*R Allan Purdy, Timothy J Benstead, D Bruce Holmes and David M Kaufman*

## HISTORICAL NEUROSURGERY

- 217 The Contributions of W.D. Stevenson to the Development of Neurosurgery in Atlantic Canada  
*K Mukhida and I Mendez*

## IN MEMORIAM

- 224 Herbert Henri Jasper (1906-1999): An Appreciation  
*William Feindel*
- 230 E. Harry Botterell  
A Series of Papers Commemorating his Life and Contributions  
With papers by *SW Schatz, TP Morley, JFR Fleming, WO Geisler, CH Tator, RR Tasker, F Gentili, SL Vandewater and WM Loughheed*

## SUPPLEMENT

- S1 Parkinson's Disease: Challenges and New Advances  
*Complete contents page A-1*

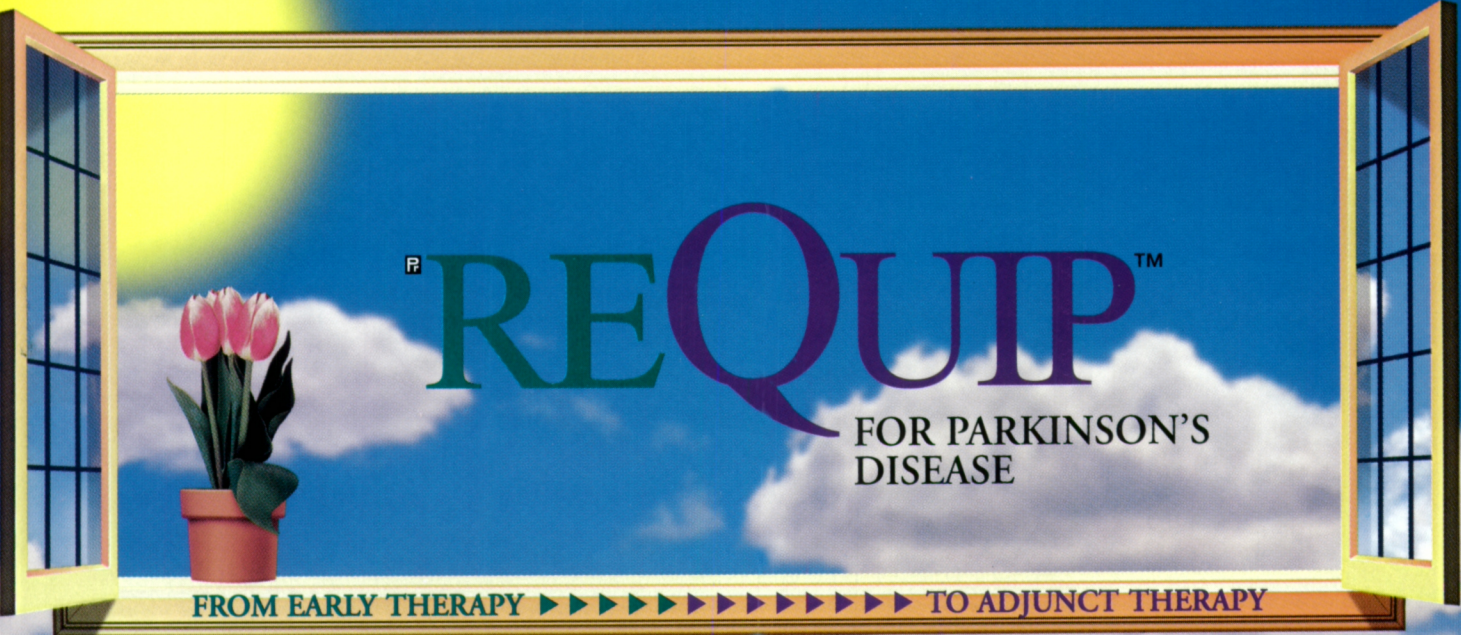
35th CANADIAN  
CONGRESS OF  
NEUROLOGICAL  
SCIENCES

June 13 - 17, 2000  
Ottawa, Ontario



NOW ON  
PROVINCIAL FORMULARIES  
SPECIAL AUTHORITY IN B.C. & N.S.  
FULL LISTING IN ALTA., Nfld., SASK., MAN., QUE.

# A DOPAMINE AGONIST YOU CAN START WITH AND STAY WITH.



**REQUIP<sup>TM</sup>**  
FOR PARKINSON'S  
DISEASE

FROM EARLY THERAPY ►►►►►►►►►►►►►►►►►►►► TO ADJUNCT THERAPY

REQUIP IS A NON-ERGOLINE  
DOPAMINE AGONIST THAT IS  
INDICATED FOR BOTH EARLY  
THERAPY WITHOUT LEVODOPA  
AND ADJUNCT THERAPY WITH  
LEVODOPA.

## EQUALLY EFFECTIVE TO LEVODOPA IN EARLY DISEASE.<sup>1</sup>

After 6 months, ReQuip and levodopa showed no difference in Clinical Global Improvement in patients at Hoehn and Yahr stages I-II, although levodopa showed greater improvement in patients with more severe disease.<sup>1\*</sup> As well, ReQuip monotherapy was shown to be significantly more effective than bromocriptine in early disease after 6 months.<sup>2\*</sup>

## CAN DELAY LEVODOPA FOR AT LEAST 3 YEARS.

Using ReQuip in early disease can sustain symptom control and has been shown to delay the need for levodopa in the majority of patients (61 of 102) who completed a full 3 year study.<sup>3,4</sup>

## CONTINUED BENEFITS IN ADJUNCT THERAPY.

ReQuip allowed a 20% or greater reduction in levodopa dose and also increased patients 'on' time by 20% or more after 6 months of combination therapy.<sup>5\*</sup>

## SPARING LEVODOPA CAN DELAY COMPLICATIONS.

Because ReQuip spares levodopa in both early and adjunct therapy, it can substantially reduce levodopa load for Parkinson's patients. As a result, ReQuip can delay and reduce long-term levodopa complications such as dyskinesias, 'on-off' effect and 'wearing off' effect.<sup>1,6</sup> So starting ReQuip today can give Parkinson's patients a brighter outlook for tomorrow.

\*Mean dosage: 9.7 mg (SD 6.0) ReQuip (n=179), 464.0 mg (SD 266.0) l-dopa (n=89). 95% CI of 0.28, 2.26 Stage I or I.5; 0.43, 3.07 Stage II; 0.04, 0.35 Stage II.5 or III.

\*Mean UPDRS improvement in the non-selegiline subgroup. Mean dosage: 9.0 mg (SD 5.2) ReQuip (n=109), 17.2 mg (SD 8.8) bromocriptine (n=101). 95% CI of 6.0%, 21.1%.

\*Achieved by 28% of ropinirole (n=94) and 11% of placebo (n=54) treated patients. 95% CI of 1.533, 12.658.<sup>3</sup>  
In early therapy\*, nausea (59.9%), dizziness (40.1%) and somnolence (40.1%) were the most common side effects of ReQuip. Postural hypotension occurred in 6.4% of patients.

In adjunct therapy with levodopa\*, dyskinesias (33.7%) and nausea (29.8%) were the most common side effects of ReQuip.

**SB** SmithKline Beecham  
Pharma

MEMBER  
PAAB PMAG

ropinirole  
**REQUIP<sup>TM</sup>**  
Early Therapy Adjunct Therapy

**RIGHT FROM THE START.**



Visit Our Web Site At:  
[www.canjneurosci.org](http://www.canjneurosci.org)

THE CANADIAN JOURNAL OF

# Neurological Sciences

LE JOURNAL CANADIEN DES

# Sciences Neurologiques

- REVIEW ARTICLE      **163** The Time Course of Changes in Motor Cortex Excitability Associated with Voluntary Movement  
*Robert Chen and Mark Hallett*
- EDITORIAL            **170** Coil Occlusion of Basilar Bifurcation Aneurysms: The Shape of Things to Come  
*Stephen P Lownie*
- ORIGINAL ARTICLES   **172** Endovascular Occlusion of Basilar Bifurcation Aneurysms With Electrolytically Detachable Coils  
*Gary Redekop, Robert Willinsky, Walter Montanera, Karel TerBrugge, Michael Tymianski and M Christopher Wallace*
- 182** Correlation of Neurologic Dysfunction with CT Findings in Early Acute Stroke  
*JN Scott, AM Buchan and RJ Sevick*
- 190** Historical and Clinical Features of Psychogenic Tremor: a Review of 70 Cases  
*Yun J Kim, Anthony S-I Pakiam and Anthony E Lang*
- 196** Clinical and Electrophysiological Study in French-Canadian Population with Charcot-Marie-Tooth Disease Type 1A Associated with 17p11.2 Duplication  
*Nicolas Dupré, Jean-Pierre Bouchard, Louise Cossette, Denis Brunet, Michel Vanasse, Bernard Lemieux, Gilles Mathon and Jack Puymirat*
- CASE REPORTS        **201** Pseudo-Myasthenia Gravis and Thymic Hyperplasia in Graves' Disease  
*Michael W Nicolle*
- 204** Isolated Trigeminal Neuropathy due to Trigeminal Nerve Root Hemorrhage  
*S Almeida, C Chalk, J Minuk, R Del Carpio, M Guerin and M Levental*
- 207** Ganglioglioneurocytoma of the Posterior Fossa  
*AM Alkhani, JM Bilbao, P Medline and FA Ogundimu*
- NEUROLOGICAL AND   **211** Using Problem-Based Learning in Neurosciences Education for Medical Students  
NEUROSURGICAL     *R Allan Purdy, Timothy J Benstead, D Bruce Holmes, David M Kaufman*  
EDUCATION
- HISTORICAL            **217** The Contributions of W.D. Stevenson to the Development of Neurosurgery in Atlantic Canada  
NEUROSURGERY     *K Mukhida and I Mendez*
- IN MEMORIAM        **224** Herbert Henri Jasper (1906-1999): In Appreciation  
*William Feindel*
- 230** E. Harry Botterell  
A Series of Papers Commemorating his Life and Contributions\*  
*With papers by SW Schatz, TP Morley, JFR Fleming, WO Geisler, CH Tator, RR Tasker, F Gentili, SL Vandewater and WM Loughheed*

\*These papers were presented at The Toronto Hospital on November 17, 1997 at a special program dedicated to the life and contributions of E.H. Botterell held during the 1997 E.H. Botterell Visiting Professorship in the Division of Neurosurgery, University of Toronto

- SUPPLEMENT        Parkinson's Disease: Challenges and New Advances **S1-S57**  
Books Received **247**  
Book Reviews **247**  
Notes and Announcements **252**  
Calendar of Events **253**  
Information for Authors **A-8**  
25 Years Ago in the Canadian Journal of Neurological Sciences **A-13, A-18, A-19**  
Advertisers Index **A-50**



THE CANADIAN JOURNAL OF

# Neurological Sciences

LE JOURNAL CANADIEN DES

# Sciences Neurologiques

**Editor/Rédacteur en chef**

Douglas W. Zochodne CALGARY, AB

**Associate Editors/Rédacteurs associés**

Laurence E. Becker TORONTO, ON

Andres M. Lozano TORONTO, ON

**Past Editors**

James A. Sharpe TORONTO, ON

Robert G. Lee CALGARY, AB

Robert T. Ross WINNIPEG, MB

(founding editor)

**Editorial Board/Conseil Scientifique**

Harold P. Adams IOWA CITY, IA, USA

Jack P. Antel MONTREAL, QC

Timothy J. Benstead HALIFAX, NS

J. Gregory Cairncross LONDON, ON

Andrew A. Eisen VANCOUVER, BC

Max J. Findlay EDMONTON, AB

Anthony M. Hakim OTTAWA, ON

Renn Holness HALIFAX, NS

George Karpati MONTREAL, QC

Douglas Kondziolka PITTSBURGH, PA, USA

Mark J. Morrow CLEVELAND, OH, USA

John H. Noseworthy ROCHESTER, MN, USA

C. Warren Olanow NEW YORK, NY, USA

Peter M. Richardson, MONTREAL, QC

Guy Rouleau MONTREAL, QC

James T. Rutka TORONTO, ON

Shashi S. Seshia WINNIPEG, MB

Alan M. Smith MONTRÉAL, QC

Paul Steinbok VANCOUVER, BC

Jonathan A. Stoessl VANCOUVER, BC

**Book Review Editor / Rédacteur de critiques de livres**

Warren P. Mason TORONTO, ON

**News Editor/Rédacteur (nouvelles)**

John W. Norris TORONTO, ON

**Managing Director/Gérant directrice**

Sally A. Gregg CALGARY, AB

**Publications Committee/Comité de Rédaction**

G. Bryan Young LONDON, ON

Mark Hamilton CALGARY, AB

Andrew Kertesz LONDON, ON

Joseph Dooley STE-FOY, QC

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:  
810, 906 - 12 Avenue S.W., Calgary, AB Canada T2R 1K7

The Canadian Journal of Neurological Sciences is published quarterly. The annual subscription rate is \$70 for members; \$77 for non-members in Canada; \$88 for USA and elsewhere. Residents, Interns, Pre- and Post-Doctoral Students \$35 per annum (members); \$38.50 per annum (non-members). Single copies \$22 each plus postage and handling. All manuscripts and communications should be sent to: Canadian Journal of Neurological Sciences, P.O. Box 4220, Station C, Calgary, AB Canada T2T 5N1. Courier to: 810, 906 - 12th Avenue S.W., Calgary, AB Canada T2R 1K7. Telephone (403) 229-9575; Fax (403) 229-1661. E-mail: [cjns@canjneurosci.org](mailto:cjns@canjneurosci.org); Web Site: [www.canjneurosci.org](http://www.canjneurosci.org)

COPYRIGHT © 1999 by THE CANADIAN JOURNAL OF NEUROLOGICAL SCIENCES INC. 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 number 1259563. Postage paid at Calgary, Alberta. This journal is indexed by *Index Medicus*, *EMBASE Excerpta Medica and Current Contents — Clinical Practice and Life Sciences*, *Elsevier Biobase/Current Awareness in Biological Sciences*, *Biological Abstracts*, *Chemical Abstracts*, *Current Advances in Ecological Sciences*, *Dent.index*, *Industrial Medicine*, *Industrial Science Reviews*, *INIS Automind*, *Nutrition Abstracts*, *Science Citation Index*, *Weed Abstract*.

Le Journal Canadien des Sciences Neurologiques est publié trimestriellement. L'abonnement annuel est de 70 \$ pour les membres; 77 \$ pour les non-membres au Canada; 88 \$ pour les Etats Unis et ailleurs. Internes, résidents, fellows pré et post doctoral: 35 \$ par année (membres); 38,50 \$ par année (non-membres). Copie simple: 22 \$ plus affranchissement et manutention. Toutes les communications et les manuscrits doivent être adressés à Journal Canadien des Sciences Neurologiques, P.O. Box 4220, Station C, Calgary, AB Canada T2T 5N1. Par courrier: 810, 906 - 12th Avenue S.W., Calgary, AB Canada T2R 1K7. Téléphone (403) 229-9575; Fax (403) 229-1661. E-mail [cjns@canjneurosci.org](mailto:cjns@canjneurosci.org); Web Site: [www.canjneurosci.org](http://www.canjneurosci.org)

DROITS D'AUTEUR © 1999: THE CANADIAN JOURNAL OF NEUROLOGICAL SCIENCES INC. 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 permis de poste-publications no 1259563. Port payé à Calgary, Alberta. Le Journal est cité et indexé dans *Index Medicus*, *EMBASE Excerpta Medica et Current Contents — Clinical Practice et Life Sciences*, *Elsevier Biobase/Current Awareness in Biological Sciences*, *Biological Abstracts*, *Chemical Abstracts*, *Elsevier Biobase/Current Advances in Ecological Sciences*, *Dent.index*, *Industrial Medicine*, *Industrial Science Reviews*, *INIS Automind*, *Nutrition Abstracts*, *Science Citation Index*, *Weed Abstract*.

**Advertising representative/Représentant de publicité:**

Sally Gregg, Canadian Journal of Neurological Sciences  
810, 906 - 12 Ave. S.W., Calgary, AB Canada T2R 1K7  
Tel (403) 229-9575 Fax (403) 229-1661

E-mail: [cjns@canjneurosci.org](mailto:cjns@canjneurosci.org)

Web Site: [www.canjneurosci.org](http://www.canjneurosci.org)

**Printer/Imprimeur:**

McAra Printing Limited, 105, 2507 - 12th Street N.E.,  
Calgary, Alberta T2E 7L5

ISSN 0317 - 1671



# NEW Pr **AMERGE**<sup>®</sup>

Because not all migraines are created equal...



## Highly Tolerable

- Overall incidence of adverse events in controlled clinical trials similar to placebo<sup>1-3†</sup> (31% AMERGE 2.5 mg vs. 32% placebo)<sup>2</sup>
- Chest and neck sensations characteristic of the 5-HT<sub>1</sub> agonist class reported in *only* 1.2 – 2.1% of patients<sup>1‡</sup>

## Long-lasting Migraine Relief

- Significant migraine relief was sustained over 24 hours<sup>2§</sup>
- 93% of attacks per patient did not require a second dose for recurrence<sup>4||</sup>



*Highly tolerable, long-lasting migraine relief*  
Available in 2.5mg & 1mg tablets

AMERGE is a 5-HT<sub>1</sub> agonist indicated for the acute treatment of migraine attacks with or without aura. AMERGE is contraindicated in patients with hemiplegic, basilar, or ophthalmoplegic migraine. Safety and efficacy have not been established for cluster headache which is present in an older, predominantly male population.

<sup>1</sup>AMERGE is contraindicated in patients with history, symptoms, or signs of ischemic cardiac, cerebrovascular or peripheral vascular syndromes, valvular heart disease or cardiac arrhythmias (especially tachycardias). In addition, patients with other significant underlying cardiovascular disease should not receive AMERGE. AMERGE is also contraindicated in patients with uncontrolled or severe hypertension.

<sup>2</sup>With 2.5 mg naratriptan. <sup>3</sup>Headache relief = reduction of moderate or severe pain to mild or no pain. <sup>4</sup>Percentage does not represent recurrence rate. Headache recurrence equals a return of moderate or severe pain in 4 to 24 hours post-dose following initial relief.

<sup>†</sup>AMERGE<sup>®</sup> is a registered trademark of Glaxo Group Limited, Glaxo Wellcome Inc. licensed use. Product Monograph available to health care professionals upon request.

**GlaxoWellcome**





# New in Lennox-



<sup>†</sup>Refers to lamotrigine, gabapentin, vigabatrin, and topiramate, to be distinguished from standard AEDs.

<sup>‡</sup>With the exception of atypical absence seizures.

<sup>§</sup>Statistical significance not reported.

<sup>¶</sup>Rarely, serious skin rashes, including Stevens-Johnson syndrome and toxic epidermal necrolysis (Lyell syndrome), have been reported.

Although the majority recover following drug withdrawal, some patients experience irreversible scarring and there have been rare cases of associated death.

<sup>‡</sup>Frequently reported adverse events were pharyngitis, fever, infection, and rash (p = not significant).

<sup>\*\*</sup>For detailed information about dosing in adult and pediatric patients with LGS, please refer to the full prescribing information for LAMICTAL.

Dosage of add-on LAMICTAL in Motte *et al.* and Mullens *et al.* studies ranged from 50 to 400 mg / day, after escalation.

**DO NOT EXCEED the recommended initial dose and subsequent dose escalations of LAMICTAL. More rapid initial titration has been associated with an increased incidence of serious dermatological reactions.**

Product Monograph available to health care professionals upon request.



# Gastaut Syndrome

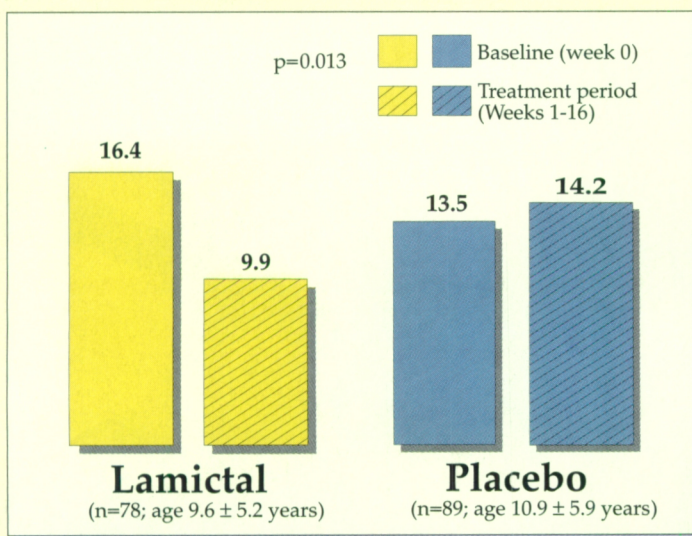
Lamotrigine  
**Lamictal**<sup>®</sup>

LAMICTAL is the first and only of the newer\* antiepileptic drugs (AED) indicated as adjunctive therapy for pediatric and adult patients with Lennox-Gastaut syndrome (LGS).<sup>1</sup> LAMICTAL is also the first and only of the newer\* AEDs indicated for monotherapy after polytherapy in adults.

## Significantly superior control over the wide range of seizure types associated with Lennox-Gastaut syndrome<sup>†</sup>

- Add-on LAMICTAL significantly reduced the number of all major seizures, all drop attacks, and all tonic-clonic seizures in patients with LGS.<sup>1</sup>

MEDIAN NUMBER OF ALL MAJOR SEIZURES/WEEK



A double-blind, randomised, placebo-controlled trial in patients from 3 to 25 years of age

## Low CNS side-effect profile maintained in patients with Lennox-Gastaut syndrome aged 3-25

- Low withdrawal rate compared to placebo:<sup>†1,2</sup> group taking LAMICTAL 3.8% (mostly due to rash<sup>§</sup>) vs. placebo group 7.8% (mostly due to deterioration of seizure control).
- No significant difference in the incidence of adverse events between LAMICTAL and placebo except for cold or viral illness (LAMICTAL 5% vs placebo 0%; p=0.05).<sup>†1</sup>

## Improved neurological function and cognitive skills<sup>2,3</sup>

- A greater proportion of LGS patients (age 3 to 25 years) treated with add-on LAMICTAL (n=79) vs add-on placebo (n=90) had a **clinically significant improvement in neurological findings** across the 16 week treatment period for: behaviour (30.4% vs. 14.4%); speech (11.4% vs. 2.2%); and non-verbal communication (11.4% vs. 7.8%).<sup>†3</sup>

LAMICTAL offers superior control over the seizure types associated with LGS and a low CNS side-effect profile. You may also improve the neurological function and cognitive skills of your patients.<sup>2,3</sup> Add LAMICTAL\*\* as soon as the diagnosis of LGS is suspected.<sup>4</sup>

**GlaxoWellcome**  
Glaxo Wellcome Inc.

®Registered trademark of The Wellcome Foundation Limited, Glaxo Wellcome Inc. licensed use.

Lamotrigine  
**Lamictal**<sup>®</sup>  
For a Brighter Future

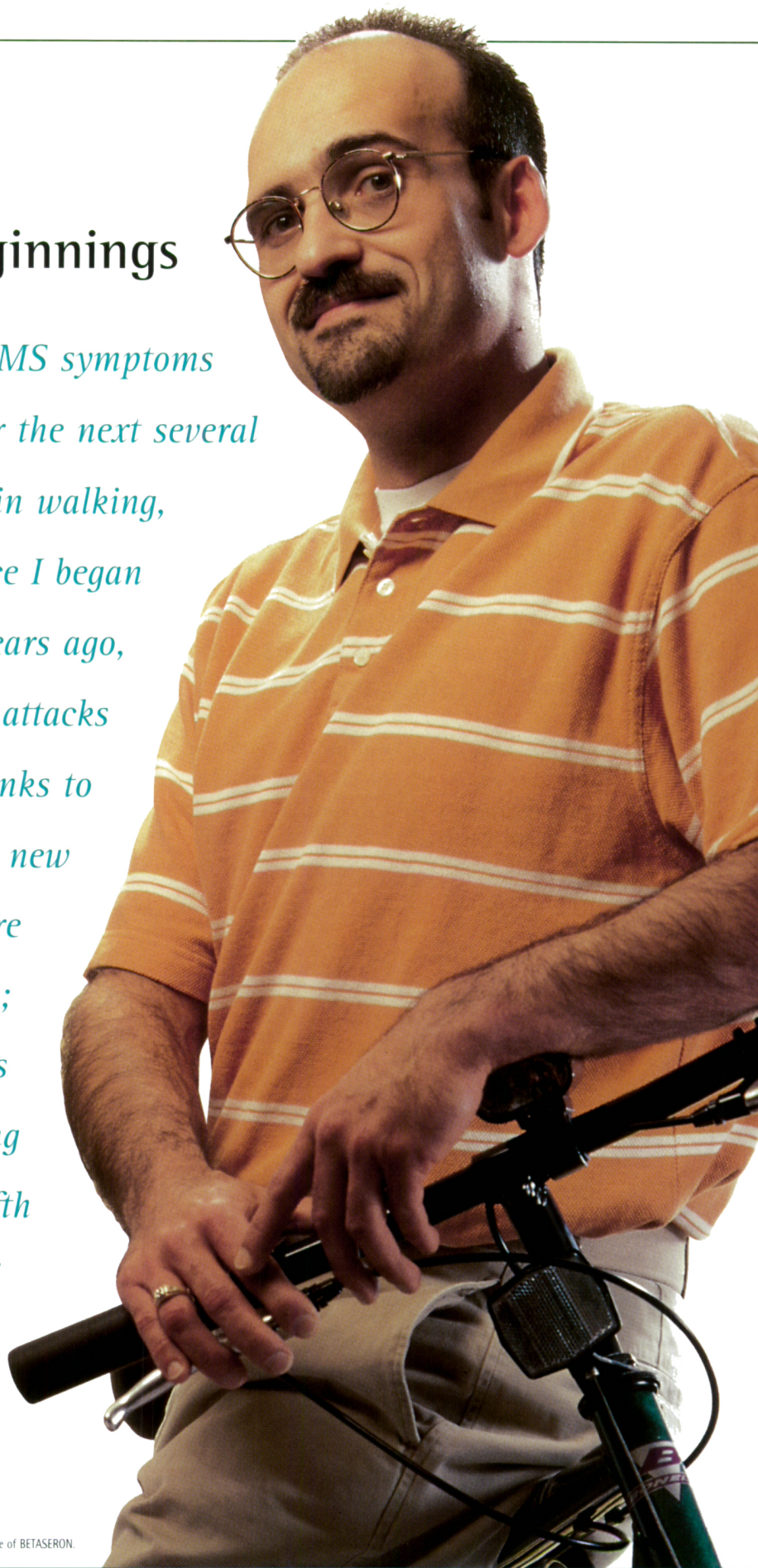




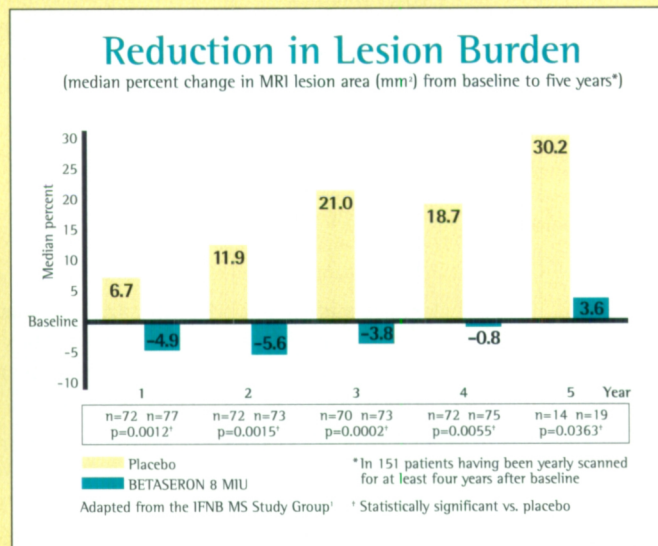
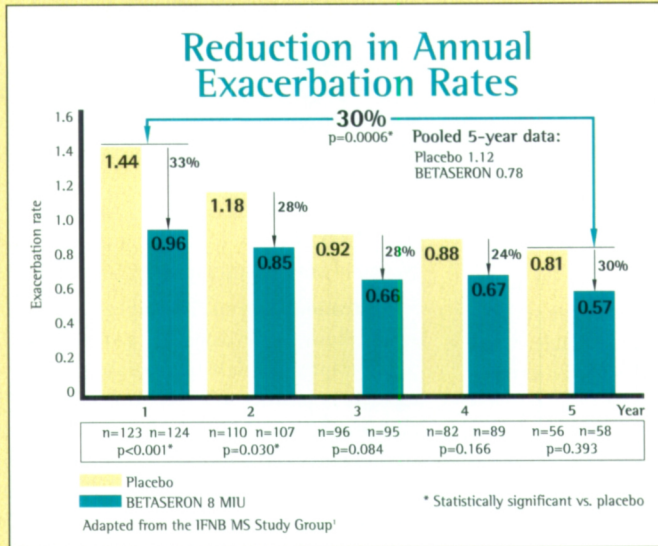
## Fred on New Beginnings

*“I first experienced MS symptoms in 1985. Over the next several years, I had difficulties in walking, with speech ... But since I began BETASERON, 11 years ago, I have had no attacks whatsoever. Thanks to BETASERON, I now face new challenges. I can be there for my children; I’m preparing my master’s degree; and I’m getting ready for my fifth MS bike-a-thon!”*

This real BETASERON patient testimonial may not be representative of all cases involving the use of BETASERON.







- Proven long-term efficacy as first-line treatment in relapsing-remitting MS
  - Over five years, exacerbation rate-reduced by 30% (p=0.0006)<sup>1</sup>
  - At two years, moderate and severe exacerbations reduced by 49% (p=0.002);<sup>2</sup> significant annual reduction maintained over five years<sup>1</sup>
  - Median time to first exacerbation twice as long as in placebo patients (p=0.015)<sup>2</sup>
- The only treatment studied for five years, both clinically and with MRI<sup>1</sup>
  - MRI measured *lesion burden* significantly reduced over five years<sup>1</sup>
  - MRI measured *lesion activity* decreased (a median of 80% fewer active scans compared to placebo; p=0.0062; measured for two years)<sup>3</sup>
- Trend toward slower disability progression demonstrated over a five year period<sup>1</sup>
- Low incidence of serious side effects:<sup>1</sup> injection-site reactions and flu-like symptoms are manageable and lessen markedly with time<sup>4</sup>

More than 60,000 patients treated to date worldwide<sup>5</sup>



**BETASERON**<sup>®</sup>

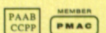
INTERFERON BETA-1b

*Proven first-line treatment for MS*



MULTIPLE SCLEROSIS  
**PATHWAYS**<sup>™</sup>  
FOR CANADA

1 800 977-2770 CODE 4000



Provincial reimbursement available in British Columbia, Saskatchewan, Manitoba, Ontario and Quebec



## INFORMATION FOR AUTHORS

The Canadian Journal of Neurological Sciences publishes original articles in neurology, neurosurgery and basic neurosciences. Manuscripts are considered for publication with the understanding that they, or the essence of their content, have not been published elsewhere except in abstract form and are not under simultaneous consideration by another journal. Articles undergo peer review. Manuscripts should be submitted to: James A. Sharpe, M.D., Editor. Canadian Journal of Neurological Sciences, P.O. Box 4220, Station C, Calgary, AB Canada T2T 5N1

### Manuscript Preparation

- Submit five high quality copies of the manuscript and original illustrations. Papers will be accepted in English or French. Manuscripts must be double spaced throughout including references, tables and legends for illustrations. Margins of at least 25mm should be left on all sides.
- After a paper has been reviewed, the author will be requested to submit four copies of the revised manuscript, including illustrations and a computer diskette (3 1/2" size) containing the article. Identify clearly first author's name, file name, word processing program and version, and system (i.e. PC or Mac). Clearly indicate the order and importance of headings.
- For detailed instructions regarding style and layout refer to "*Uniform requirements for manuscripts submitted to biomedical journals*". Copies of this document may be obtained by writing to the Journal office, but the main points are summarized here. Articles should be submitted under conventional headings of *introduction, methods and materials, results, discussion*, but other headings will be considered if more suitable. Clinical trials must be reported in Consort format (JAMA 1996; 276: 637-639). Pages of text should be numbered consecutively.
- **A title page** should identify the title of the article which should be no more than 80 characters including spaces; name of institution(s) from which the work originated; and the name, address, telephone, and fax number of the corresponding author.
- **Abstract** Original Articles should be accompanied by an abstract of 250 words or less on a separate page, either in English or French. The Journal will provide translation to the other language if required. Abstracts of original articles should consist of four paragraphs headed: *Background (or objective), Methods, Results and Conclusions*. Review articles should be accompanied by an abstract of 150 words or less.
- **Acknowledgements** including recognition of financial support should be typed on a separate page at the end of the text.
- The SI system (système international d'unités) should be used in reporting all laboratory data, even if originally reported in another system. Temperatures are reported in degrees celsius. English language text may use either British or American spelling, but should be consistent throughout.
- **References** should be numbered in the order of their citation in the text. Those cited only in tables and legends for illustrations are numbered according to the sequence established by the first identification in the text of a particular table or illustration. Titles of journals should be abbreviated according to the style used in Index Medicus. References should list the names of up to five authors; if there are more, cite the first three, then *et al*. Provide the full title, year of publication, volume number and inclusive pagination for journal articles. For any reference cited as "in press", five copies of the article must accompany the author's manuscript. Do not reference unpublished or "submitted" papers; these can be mentioned in the body of the text and authors must provide five copies of "submitted" manuscripts.

Avoid "personal communications" and, if necessary, include them in the body of the text, not among the references. Reference citations should not include unpublished presentations or other non-accessible material. Books or chapter references should also include the place of publication and the name of the publisher. Examples of correct forms of reference follow:

#### Journals

Yang JF, Fung M, Edamura R, et al. H-Reflex modulation during walking in spastic paretic subjects. *Can J Neurol Sci* 1991; 18: 443-452.

#### Chapter in a book

McGeer PL, McGeer EG. Amino acid neurotransmitters. In: Siegel GJ, Albers RW, Agranoff BW, Katzman R, eds. *Basic Neurochemistry*. Boston: Little, Brown & Co., 1981: 233-254.

- **Illustrations** Submit five original sets of illustrations. We will not return illustrations; therefore, authors should keep negatives for all photographs. Submit high quality glossy black and white photographs preferable 127 x 173 mm (5" x 7"). Original artwork and radiographs should not be submitted. The additional cost of coloured illustrations must be borne by the author; quotations are available upon request from the Journal office. Identify each figure with a label at the back indicating top, figure number and first author. Letters and arrows applied to the figures to identify particular findings should be professional appliques suitable for publication. Photomicrographs should include a calibration bar with a scale indicated on the figure or in the legend. Legends for illustrations should be typed on a separate page from the illustrations.
- **Tables** Type tables double-spaced on pages separate from the text. Provide a table number and title for each. Particular care should be taken in the preparation of tables to ensure that the data are presented clearly and concisely. Each column should have a short or abbreviated heading. Place explanatory matter in footnotes, not in the heading. Do not submit tables as photographs.
- **Review articles** on selected topics are also published. They are usually invited, but unsolicited reviews will be considered. It is recommended that authors intending to submit review articles contact the Editor in advance.
- **Letters to the Editor** concerning matters arising in recent articles are welcome. Letters should be limited to two double-spaced pages and may include one illustration and a maximum of four references.
- **Permissions and Releases** Any non-original material (quotations, tables, figures) must be accompanied by written permission from the author and the copyright owner to reproduce the material in the Journal. Photographs of recognizable persons must be accompanied by a signed release from the legal guardian or patient authorizing publication.
- **Conflict of Interest** Authors who have non-scientific or non-academic gain whether it be financial or other from publishing their article are responsible for declaring it to the Editor. Any financial interest, research grant, material support, or consulting fee associated with the contents of the manuscript must be declared to the Editor. These guidelines apply to each author and their immediate families. Conflicts of interest are not necessarily wrong nor do they necessarily change the scientific validity of research or opinion, but the Journal and readers should be aware of the conflict. If the Editor considers the conflict to compromise the validity of the paper, it will not be accepted for publication. Authors, editorial staff and reviewers are asked to declare any relationship that would be considered as a conflict of interest whether or not they believe that a conflict actually exists. Information that the Journal receives about conflict or potential conflict will be kept confidential unless the Editor or Associate Editor considers it to be important to readers. Such conflicts will be published in the author credits or as a footnote to the paper, with knowledge of the authors.



# A Renewed Opportunity

## PARKINSON'S DISEASE

### A world in which the therapeutic options are limited<sup>1</sup>

For those who have it, treat it, live with it; managing their Parkinson's disease can be quite frustrating. Yet there are moments that can be most rewarding. Motor function improves, the number of "off" hours decreases, rigidity subsides, gait improves. Their levodopa seems to be working... at least for today! Then there are times when nothing seems to help. Even their medication seems to be causing problems. It seems hopeless...

Today, however, there is another way to renew their hope. Even after its discovery more than fifteen years ago, Permax (pergolide mesylate) is still considered the most potent dopamine agonist available for the treatment of Parkinson's disease.<sup>1-3</sup> With its unique mode of action, i.e. stimulating both D<sub>1</sub> and D<sub>2</sub> dopamine receptors, Permax has demonstrated (n=376) statistically significant improvement in virtually all those numerous parameters of parkinsonian function, including bradykinesia, rigidity, gait, dexterity, etc. Equally important, these benefits were achieved with significantly less levodopa... 24.7% (p <.001), and by starting Permax at low doses "Adverse reactions were, for the most part, mild, reversible, and not of major clinical significance."<sup>3\*</sup>

Successful treatment with Permax can last for up to 3-5 years<sup>4,5</sup> and renewed improvement has been demonstrated when Permax was given to patients (n=10) in whom the beneficial effect of bromocriptine had waned,<sup>4</sup> whereas the reverse was not true in a separate, non-comparable study (n=11) when bromocriptine was given to Parkinson's patients in whom Permax had waned.<sup>6</sup>

*So, when given an opportunity to manage Parkinson's disease, there may be a way of renewing hope.*



**PERMAX**<sup>®</sup>  
pergolide mesylate



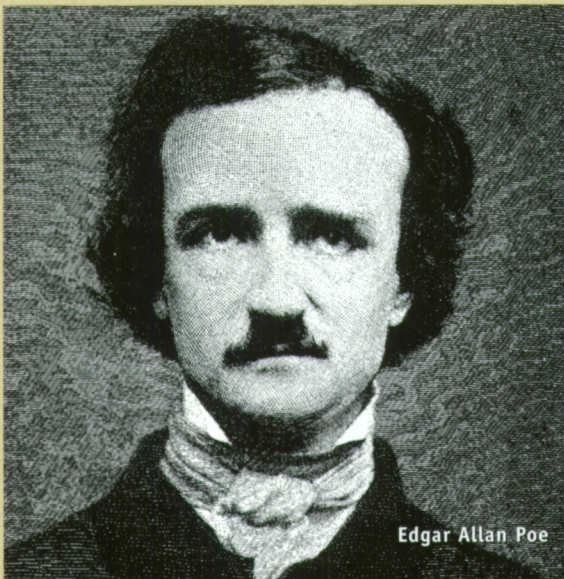
Draxis Health Inc.  
Mississauga, Ontario

PAAB

\* Rapid escalation of pergolide dosage may cause severe adverse reactions. Therefore a slow increase combined with a concomitant gradual and limited reduction of levodopa is recommended. See ADVERSE REACTIONS section in Prescribing Information



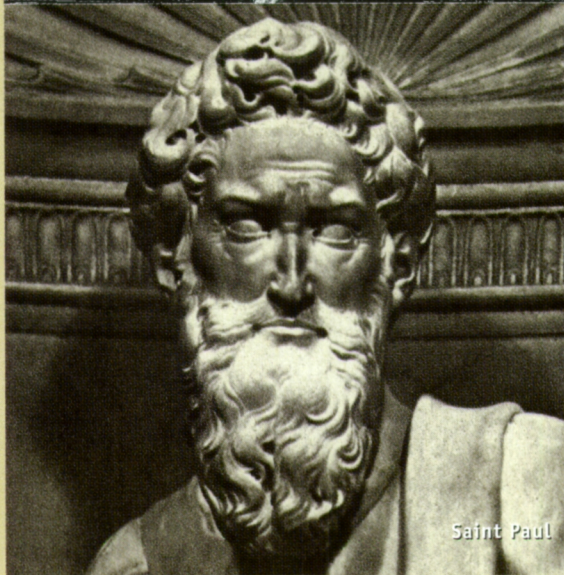
**ONCE IT TOOK EXCEPTIONAL EFFORT OR EXTRAORDINARY  
TALENT FOR PEOPLE WITH EPILEPSY TO SUCCEED.  
LUCKILY, BOTH YOUR ADULT AND PEDIATRIC PATIENTS CAN  
NOW ENJOY LESS TAXING ALTERNATIVES.**



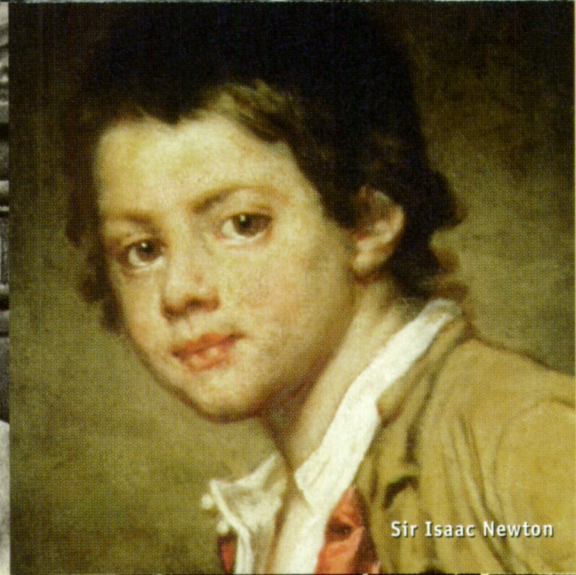
Edgar Allan Poe



Joan of Arc



Saint Paul



Sir Isaac Newton



Pythagoras



Charles Dickens



# NOW INDICATED FOR CHILDREN



<sup>P</sup>TOPAMAX\* topiramate Tablets and Sprinkle Capsules: indicated as adjunctive therapy for the management of patients (adults and children two years and older) with epilepsy who are not satisfactorily controlled with conventional therapy. There is limited information on the use of topiramate in monotherapy at this time.<sup>1</sup>

## Efficacy in Partial Onset Seizures:

### Dosage Individualized to Patient Response:<sup>4,5</sup>

	N	≥50% Seizure Reduction	Seizure Free
Adults <sup>4,a</sup>	450	59%	19%
Children <sup>5,b</sup>	41	73%	22%

Adapted from references 4 and 5

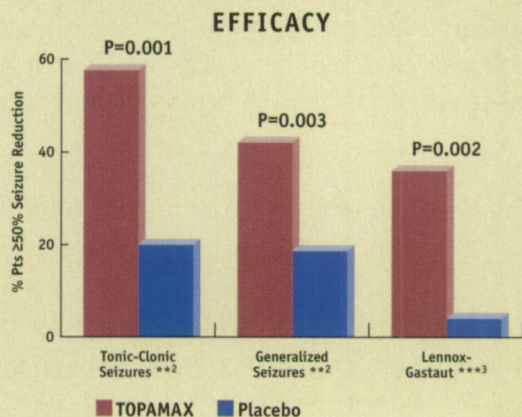
a Open label, 20 week trial in adults with partial onset seizures. TOPAMAX administered b.i.d. as adjunctive therapy, optimal dosage appeared to be 300-350 mg/day.

b Open label trial in children with partial-onset seizures following participation in a double-blind, placebo controlled trial. Reductions in seizure frequency were determined for children treated for at least 3 months. TOPAMAX administered b.i.d. as adjunctive therapy. Children received open label topiramate for a mean duration of 8 months at an average dose of 10 mg/kg/day (4-20 mg/kg/day).

For recommended dose refer to TOPAMAX\* Prescribing Information.

## Improved control over a wide range of seizure types:

- With additional data demonstrating efficacy as adjunctive therapy from randomized, double-blind, placebo-controlled trials in adults and a small number of children for:
- **Primary Generalized Tonic-Clonic Seizures<sup>1</sup>**
- **Seizures associated with Lennox-Gastaut syndrome<sup>1</sup>**



Adapted from references 2 and 3

\*\*20 week double-blind treatment phase (8 week baseline and a 12 week treatment period) with either TOPAMAX (n=39, including 8 children ≤ 16 yrs) b.i.d. as adjunctive therapy or placebo (n=41). TOPAMAX was titrated to target doses of approximately 6 mg/kg/day.

\*\*\*Drop attacks and tonic-clonic seizures: 11 week double blind treatment phase with either TOPAMAX (n=48) b.i.d. as adjunctive therapy or placebo (n=50); patient mean age 11.2 yrs. TOPAMAX was titrated to a target dose of approximately 6 mg/kg/day.

## An appropriate first choice adjunctive therapy for many of your patients:

Favourable Side-effect Profile:

- Like most antiepileptic drugs, the most common side effects are CNS related<sup>††1,6</sup>:
- Usually mild to moderate occurring early in therapy and transient<sup>1,6</sup>
- If encountered: Consider reducing the TOPAMAX dosage, rate of titration, and/or the concomitant AED dosage<sup>8</sup>
- In children, there were no discontinuations due to adverse events at 5 to 9 mg/kg/day in the controlled clinical trials.<sup>1</sup>

## Safety Considerations:

- No evidence to date of a proven association of TOPAMAX usage and the following: life threatening rash, permanent visual field constriction or polycystic ovary disease:<sup>c</sup>
- Weight loss

Adults: Modest weight loss may be sustained ≤ 12 months with the greatest weight loss occurring between 3 and 6 months and peaking at 9 months.<sup>7</sup>  
 Pediatrics: Of those pediatric subjects treated in clinical trials for at least a year who experienced weight loss, 96% showed a resumption of weight gain within the period tested.<sup>1†</sup>

## Convenient BID dosing<sup>1</sup>

Now available in a convenient 15 mg and 25 mg Sprinkle Capsule formulation<sup>1</sup>:

Swallow whole or sprinkle on food  
 Bioequivalent to TOPAMAX Tablets

† The long term effects of weight loss in pediatric patients is not known.  
 †† CNS adverse events: Somnolence (30.1%), dizziness (28.3%), ataxia (21.2%), speech disorders (16.8%), psychomotor slowing (16.8%), nystagmus (15.0%), paresthesia (15.0%), nervousness (15.9%), difficulty with concentration/attention (8.0%), confusion (9.7%), depression (8.0%), anorexia (5.3%), language problems (6.2%), and mood problems (3.5%).<sup>1</sup>  
 In an audit of 1446 adults and 303 children there appeared to be a similar pattern of adverse events.<sup>1</sup>

Please refer to the TOPAMAX Prescribing Information for complete prescribing details.

c Data on file JANSSEN-ORTHO Inc May 1999

\*All trademark rights used under license

© 1999 JANSSEN-ORTHO Inc. JATX991005A

**TABLETS NOW  
 ON FORMULARY†**

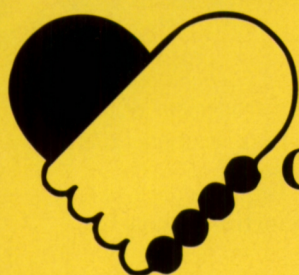
† Limited use benefit—Ontario, Nova Scotia, New Brunswick, PEI.  
 Full Benefit—Quebec, Saskatchewan, British Columbia, Alberta, Manitoba.



Helping patients with epilepsy make more of their lives



*If you have an interest in Neurological Sciences –  
you should be a partner ...*



## **CANADIAN CONGRESS OF NEUROLOGICAL SCIENCES PARTNERS PROGRAM**

The CCNS PARTNERS PROGRAM is intended to provide a forum which will bring together all the professional societies, volunteer agencies, and commercial organizations in Canada which show a common interest in disorders affecting the nervous system. These include conditions such as Alzheimer's Disease, Stroke, Multiple Sclerosis, Epilepsy, ALS, Parkinson's Disease, Spinal Cord and Head Injuries.

Through a number of joint programs and initiatives, the goals will be to increase public awareness of neurologic disorders, to improve the well-being of people with these disorders, and to promote and encourage the development of new strategies for treatment and prevention of these conditions.

A website is being developed that will act as the core of communication for the PARTNERS PROGRAM. This site will act as a resource for information for the Partners, CCNS members, and individuals interested in gaining more information about neurological disorders.

A national Angus Reid telephone survey, aimed at the Canadian public to assess their general knowledge of neurological disorders, has recently been completed by the PARTNERS. The results strongly reinforce the need for a coalition of organizations involved in neurosciences. Details of the survey are available to the PARTNERS.

We are actively encouraging all those interested to join the PARTNERS PROGRAM and to develop this initiative.

**THE PARTNERS ARE COMPRISED OF THE CCNS SOCIETIES AND AFFILIATE GROUPS,  
FOR-PROFIT AND NON-PROFIT ORGANIZATIONS WITH AN INTEREST IN CANADIAN  
NEUROSCIENCES.**

*Only by uniting Neurological Sciences in Canada will we achieve our goals.*

### **FOR MORE INFORMATION REGARDING THE CCNS PARTNERSHIP PROGRAM**

Mail: Suite 810, 906 12th Avenue SW,  
Calgary, AB T2R 1K7  
Phone: 403-229-9544  
Fax: 403-229-1661  
Email: [brains@ccns.org](mailto:brains@ccns.org)





# 25 Years Ago in the Canadian Journal of Neurological Sciences

---

## SUPERSENSITIVITY OF CENTRAL NEURONS – A BRIEF REVIEW OF AN EMERGING CONCEPT

G.G. Yarbrough and J.W. Phillis

**Summary:** The concept that “denervation” or “pharmacological disuse” supersensitivity develops in central neuronal systems subsequent to sustained attenuation of normal neurohumoral mechanisms is reviewed. Particular emphasis is placed on biochemical and electrophysiological parameters of supersensitivity in dopaminergic (striatal) neuronal systems. The possible applicability of theories to the phenomenon of narcotic tolerance and physical dependence and to psychoactive drug therapy is discussed.

Can. J. Neurol. Sci. 1975;2:147

---

## THE EFFECTS OF FEEDBACK ON FOCAL EPILEPTIC DISCHARGES IN MAN A PRELIMINARY REPORT

A.R.M. Upton and D. Longmire

**Summary:** The history of the control of epileptic disturbances by conditioning techniques is reviewed. The preliminary results of a three year trial of feedback techniques in 13 epileptic patients are presented.

Thirteen epileptic patients (age 2.5-39, mean 15.1 years) with lateralized focal discharges in the EEG were given repeated trials of feedback, the focal discharges being used to trigger auditory and somatosensory stimuli. Dosages and serum levels of medication were unchanged throughout the experimental period. The number of epileptic spikes per 15 seconds was assessed by automatic trend analysis during 20 to 30 minute control, biofeedback and post-feedback epochs. Ongoing EEG activity was quantified by 8 channel frequency analysis over 10 second epochs. The patients made efforts to increase and decrease the number of spike discharges with and without feedback and the results of both triggered and random auditory, somatosensory, photic and combined stimulation were compared at various intervals over a period of up to three years. A marked reduction in the number of focal discharges was noted in eight (61.5%) patients during and immediately following the sessions.

Intermittent biofeedback sessions were not associated with a serial reduction in the number of focal EEG discharges. There was a reduction in the number of clinical epileptic disturbances in six patients (46%) and possible reasons for this improvement are discussed.

One patient suffered an increase in focal temporal lobe discharges during triggered and random auditory stimulation whereas there was a marked reduction in the number of discharges during minimal electrical stimulation of the contralateral arm. The need for careful assessment of each patient to determine appropriate feedback stimulation is stressed.

One aim of this research has been to assess the feasibility of using miniature units for continuous feedback of focal discharges in epileptic patients.

Can. J. Neurol. Sci. 1975;2:153

---

## ALPHA METHYLDOPAHYDRAZINE AS AN ADJUNCT TO LEVODOPA THERAPY IN PARKINSON'S DISEASE

D.W. Paty, N. Jaatoul, A. Kertesz and W. McInnis

**Summary:** A double-blind, double-observer study was carried out in twenty-five patients with Parkinson's disease. Alpha methyl dopahydrazine in combination with L-dopa was compared to placebo with L-dopa. Combination therapy resulted in a reduction in L-dopa dosage to  $\frac{1}{2}$  of the amount required during the baseline. There were no side effects attributed directly to the alpha methyl dopahydrazine. The overall incidence of side effects in the two groups was similar but the combination therapy significantly reduced the incidence of nausea and vomiting. The limiting factor in the combination therapy was the presence of L-dopa induced dyskinesias.

Can. J. Neurol. Sci. 1975;2:169





*Always*

TOGETHER  
180 MI

GlaxoWellcome

PAAB  
CCPP

MEMBER  
PMAC



*there,*

WE'VE TREATED  
BILLION MIGRAINES.<sup>†</sup>



<sup>P</sup> **IMITREX<sup>®</sup>**  
SUMATRIPTAN SUCCINATE  
SUMATRIPTAN NASAL SPRAY

*A faster way back.<sup>™\*</sup>*

*Available in tablets, nasal spray and subcutaneous formats.*

<sup>†</sup>Worldwide estimates January 1999. Data on file, Glaxo Wellcome Inc.

<sup>\*</sup>Onset of action: 10-15 min. subcutaneous, 15 min. nasal spray, 30 min. tablet.

IMITREX (sumatriptan succinate/sumatriptan) is a selective 5-HT<sub>1</sub> receptor agonist indicated for the acute treatment of migraine attacks with or without aura. IMITREX is not indicated for prophylactic therapy of migraine, or for the management of hemiplegic, basilar, ophthalmoplegic migraine. Safety and efficacy have not been established for cluster headache. IMITREX is contraindicated in patients with history, symptoms, or signs of ischemic cardiac, cerebrovascular, or peripheral vascular syndromes, valvular heart disease or cardiac arrhythmias. In addition, patients with other significant underlying cardiovascular diseases should not receive IMITREX. IMITREX is also contraindicated in patients with uncontrolled or severe hypertension.

<sup>\*</sup>IMITREX<sup>®</sup> is a registered trademark of Glaxo Group Limited, Glaxo Wellcome Inc. licensed use. Product Monograph available to health care professionals upon request.



# Nouveau dans le syndro



Lamotrigine, gabapentine, vigabatrine et topiramate (à distinguer des antiépileptiques standards).

†À l'exception des absences épileptiques atypiques.

‡Signification statistique non indiquée.

§Dans de rares cas, des éruptions cutanées graves, y compris le syndrome de Stevens-Johnson et l'épidermolyse nécrosante suraiguë (syndrome de Lyell), ont été signalées. Bien que la plupart des patients se soient rétablis après le retrait du médicament, certains patients ont éprouvé des séquelles irréversibles et il y a eu de rares cas de décès associés.

¶Les effets indésirables fréquemment signalés sont la pharyngite, la fièvre, les infections et les éruptions cutanées (p = non significatif).

\*\*Pour obtenir des précisions sur la posologie de LAMICTAL chez l'adulte ou chez l'enfant atteints du syndrome de Lennox-Gastaut, consultez les renseignements thérapeutiques détaillés sur ce produit. La posologie de LAMICTAL comme traitement d'appoint qui a été utilisée dans les études de Motte et al. et de Mullens et al. était de 50 à 400 mg par jour, après augmentation graduelle de la dose initiale. **NE PAS DÉPASSER la dose initiale de LAMICTAL ni l'augmentation posologique graduelle qui sont recommandées. Un ajustement plus rapide de la dose initiale a été associé à une fréquence accrue de réactions dermatologiques graves.**



# me de Lennox-Gastaut

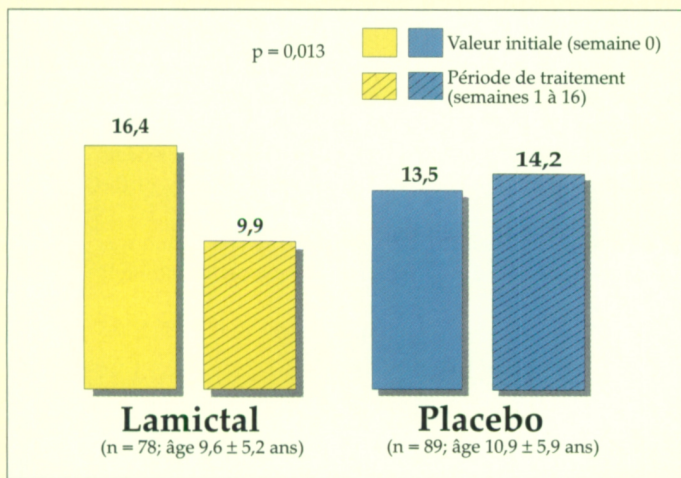
lamotrigine  
**Lamictal**<sup>®</sup>

LAMICTAL est le premier et le seul parmi les nouveaux antiépileptiques\* qui soit indiqué comme traitement d'appoint chez les enfants et les adultes atteints du syndrome de Lennox-Gastaut (SLG)<sup>1</sup>. LAMICTAL est également le premier et le seul parmi les antiépileptiques récents\* qui soit indiqué comme monothérapie après polythérapie chez l'adulte.

## Une supériorité significative pour maîtriser les divers types de crises liées au syndrome de Lennox-Gastaut<sup>†</sup>

- L'adjonction de LAMICTAL réduit, de façon significative, le nombre de crises majeures, les effondrements épileptiques et les crises tonico-cloniques chez les patients atteints de SLG<sup>1</sup>.

NOMBRE MÉDIAN  
DES CRISSES MAJEURES/SEMAINE



Essai à double insu, à répartition aléatoire et à contrôle placebo chez des patients de 3 à 25 ans

## Maintien d'un faible profil d'effets indésirables touchant le SNC chez les patients de 3 à 25 ans atteints du syndrome de Lennox-Gastaut

- Faible taux d'abandons comparativement au placebo<sup>1,2</sup> : 3,8 % pour le groupe LAMICTAL (principalement reliés aux éruptions cutanées<sup>§</sup>) contre 7,8 % pour le groupe placebo (principalement reliés à une détérioration de la maîtrise des crises).
- Aucune différence significative dans la fréquence des effets indésirables entre LAMICTAL et le placebo, sauf pour le rhume ou des maladies virales (LAMICTAL, 5 % contre placebo, 0 %; p = 0,05)<sup>1</sup>.

## Amélioration de la fonction neurologique et des facultés cognitives<sup>2,3</sup>

- Une plus forte proportion de patients (de 3 à 25 ans) atteints de SLG, traités à l'aide de LAMICTAL comme traitement d'appoint (n = 79) c. un placebo d'appoint (n = 90), ont connu une **amélioration cliniquement significative des symptômes neurologiques** durant la période de traitement de 16 semaines : comportement (30,4 % c. 14,4 %), parole (11,4 % c. 2,2 %) et communication non verbale (11,4 % c. 7,8 %)<sup>†3</sup>

LAMICTAL offre une plus grande maîtrise des divers types de crises liées au SLG, avec faible profil d'effets indésirables touchant le SNC. Vous pouvez aussi améliorer la fonction neurologique et les facultés cognitives de vos patients<sup>2,3</sup>. Ajoutez LAMICTAL\*\* dès que l'on soupçonne un SLG<sup>4</sup>.

**GlaxoWellcome**  
Glaxo Wellcome Inc.

®Marque déposée de The Wellcome Foundation Limited, utilisée sous licence par Glaxo Wellcome Inc.

lamotrigine  
**Lamictal**<sup>®</sup>  
L'avenir en tête

ADIM  
CCPP  
PAAB



# 25 Years Ago in the Canadian Journal of Neurological Sciences

---

## MORPHOLOGICAL RESPONSES OF CEREBRAL TISSUES TO TEMPORARY ISCHEMIA

Ronald F. Dodson, Yukio Tagashira, Yasuo Kawamura and Lena Wai-Fong Chu

Summary: The ultrastructural responses of cerebral tissue following temporary periods ( $\frac{1}{2}$ , 1, 2, 3, or 4 hour) of right, middle cerebral artery (MCA) occlusion were studied acutely after a three day or seven day interval following the removal of the MCA clip. Cortical and basal ganglia tissues for each ischemic duration were compared at three post-occlusive periods (acute, 3-days, 7-days). With the short periods of ischemic insult ( $\frac{1}{2}$ , 1, 2, 3, and 4 hour), the temporal and insular cortex contained no greater changes in the 7-day group than in the 3-day group. The basal ganglia were more susceptible to MCA occlusion as indicated by more marked cytological changes and/or necrosis in all intervals of ischemia.

Can. J. Neurol. Sci. 1975;2:173

---

## THE EFFECT OF DIAZEPAM ON PRESYNAPTIC INHIBITION IN PATIENTS WITH COMPLETE AND INCOMPLETE SPINAL CORD LESIONS

M. Verrier, S. MacLeod and P. Ashby

Summary: The effect of diazepam on presynaptic inhibition in man has been examined in 5 patients with complete spinal transections and 7 patients with incomplete lesions. The inhibition of the H reflex by vibration applied to the tendo Achilles was used to assess presynaptic inhibition of the Ia monosynaptic pathway. Diazepam increased this inhibition in the patients with incomplete lesions, but had no significant effect on the inhibition in the patients with complete spinal transections. Evidently diazepam can enhance presynaptic inhibition in man. The effect, however, cannot be demonstrated in patients with longstanding complete spinal lesions possibly because of some alteration in the segmental presynaptic inhibitory mechanism in this group.

Can. J. Neurol. Sci. 1975;2:179

---

## ANALYSIS OF 128 PATIENTS WITH ANGIOGRAM IN ACUTE HEAD TRAUMA

M.P. Cinesi, J.D.R. Miller, M. Grace and T.N. Ayers

Summary: A computerized analysis of 128 patients admitted with acute head injury and who underwent angiography is shown. Patients were divided into groups according to: age, sex, type of accident, state of consciousness and presence of localizing signs on admission, types of cerebral lesions on angiography, and discharge condition.

There is a preponderance of young males in this series of patients, related mainly to MVA. A total of 71% of the patients had abnormal angiograms, but the incidence of normal and abnormal results did not correlate significantly with any of the chosen parameters.

The same parameters were also analysed to assess their value as a prognostic index for the patient. The conclusion was drawn that the angiogram per se has no significant value as a prognostic tool and that state of consciousness on admission is the best single index for prognosis.

Can. J. Neurol. Sci. 1975;2:185



# 25 Years Ago in the Canadian Journal of Neurological Sciences

---

## MEMORY AND GROWTH IN THE SUPERIOR TEMPORAL GYRI

E.J. Akesson, W.J. Dahlgren and J.B. Hyde

Summary: The superior temporal gyri were measured in 33 infants and in 33 adults. In the adults, most right superior temporal gyri were larger. This asymmetry was not found in infants, a difference which suggest greater growth of the right superior temporal gyri in the population from which our sample was taken. The asymmetry may be related to the functional asymmetry found by Penfield: some of his patients reported re-experiencing of past sensory experiences with electrical stimulation of the temporal lobe. This response was more frequently evoked from the right hemisphere.

Can. J. Neurol. Sci. 1975;2:191

---

## THE NATURE OF PRIMARY VOCAL TREMOR

V.C. Hachinski, I.V. Thomsen and N.H. Buch

Summary: Three elderly women with marked progressive voice tremor, without other neurological symptoms, and negative family histories were investigated.

All had a 4-5Hz respiratory tremor in expiration and, to a lesser degree, in inspiration; and all had vocal tremulousness synchronous with their respiratory irregularity. Articulation of phonemes was normal. In two cases the neurological examination was otherwise normal; in the third case there was a minimal 7½Hz tremor in the left thumb and index finger.

Simultaneous speech and vocal air pressure recordings, as well as cinematographic studies of the vocal apparatus and diaphragm were carried out.

It is suggested that these cases represent primarily an action tremor of respiration, that they belong in the spectrum of essential tremor, and hence may be amenable to treatment with propranolol.

Can. J. Neurol. Sci. 1975;2:195

---

## PITUITARY MELANOCORTICOTROPHINOMA WITH AMYLOID DEPOSITION

Juan M. Bilbao, Kalman Kovacs, Eva Horvath, Hubert P. Higgins and William J. Horse

Summary: The light and electron microscopic features of a pituitary adenoma composed of adrenocorticotrophic hormone (ACTH) and melanocyte stimulating hormone (MSH) cells with perivascular amyloid deposition is reported. Histochemical and fine structural data indicate that this material is APUD amyloid and is present in the extra-cellular perivascular spaces. It is suggested that the differences in fine structure and of distribution of the amyloid in pituitary adenomas is dependent upon the cell of origin.

Can. J. Neurol. Sci. 1975;2:199

---

## CUCUMBER-SHAPED AND 35NM PARTICLES IN CREUTZFELDT-JAKOB DISEASE

Dikran S. Horoupian and R.T. Ross


Summary: A 63-year-old female with the ataxic form of Creutzfeldt-Jakob disease (CJD) is presented. In addition to amyloid plaques, which were not associated with Alzheimer's neurofibrillary tangles, rare profiles similar to those reported in Scrapie were also seen. To our knowledge, these profiles have never been observed in CJD and their presence in this condition adds a further morphologic similarity between the human and animal forms of subacute spongiform "viral" encephalopathies.

Can. J. Neurol. Sci. 1975;2:203









Turn the agony  
of migraine into  
the beauty of relief.

# Introducing Pr Zomig.<sup>®</sup>

Consistent migraine  
relief that patients can  
depend on time after time.

ZOMIG<sup>®</sup> is a new oral 5-HT<sub>1</sub> agonist  
indicated for the acute treatment  
of migraine.<sup>1</sup>

ZOMIG<sup>®</sup> offers consistent efficacy  
with significant headache  
response\* rates at 2 hours  
following a single 2.5 mg dose.<sup>2,3</sup>  
In addition, efficacy is maintained  
across multiple migraine attacks and  
within different migraine subtypes.<sup>1,4,5</sup>

ZOMIG<sup>®</sup> has a proven  
safety and tolerability profile  
with studies in over  
3,000 patients treating  
more than 34,000 attacks.<sup>6†</sup>

For consistent migraine relief,  
prescribe ZOMIG<sup>®</sup> 2.5 mg.

\*Improvement from severe or moderate headache to mild or no pain.

<sup>†</sup>The most common side effects reported with ZOMIG<sup>®</sup>  
compared to placebo were nausea (9% vs. 3.7%),  
head/face sensations (8.6% vs. 1.7%), dizziness (8.4% vs. 4%)  
and neck/throat/jaw sensations (7% vs. 3%).<sup>1</sup>

ZOMIG<sup>®</sup> is not intended for use prophylactically or  
in hemiplegic, basilar, or ophthalmoplegic migraine.  
Safety and efficacy have not been established for cluster headache,  
which is present in an older, predominantly male population.

ZOMIG<sup>®</sup> is contraindicated in patients with history,  
symptoms, or signs of ischemic, cardiac, cerebrovascular  
or peripheral vascular syndromes, valvular heart disease  
or cardiac arrhythmias (especially tachycardias).

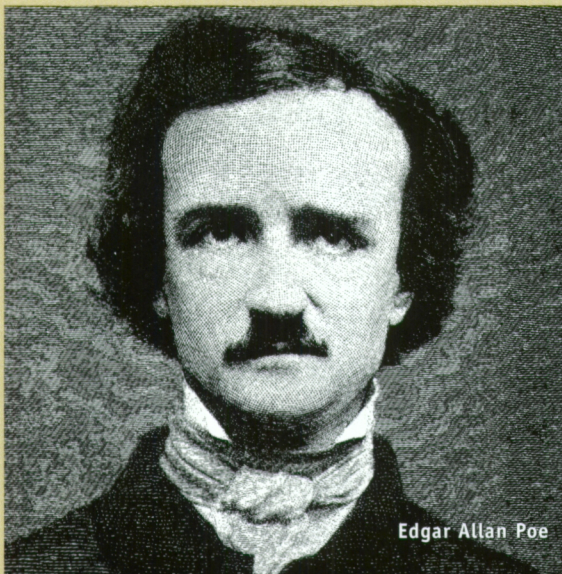
In addition, patients with other significant underlying  
cardiovascular disease should not receive ZOMIG<sup>®</sup>.  
Please see Product Monograph.

For more information about ZOMIG<sup>®</sup>, please contact  
Zeneca Pharma Medical Information by phone at 1-888-325-0555,  
fax (905) 821-8882 or e-mail at [canada.medinfo@cams.zeneca.com](mailto:canada.medinfo@cams.zeneca.com)

 Zomig<sup>®</sup>



**IL FUT UN TEMPS OÙ LES PERSONNES ÉPILEPTIQUES DEVAIENT DÉPLOYER  
DES EFFORTS CONSIDÉRABLES OU FAIRE PREUVE DE TALENTS  
EXTRAORDINAIRES POUR RÉUSSIR DANS LA VIE. HEUREUSEMENT, LES ENFANTS  
ET LES ADULTES ÉPILEPTIQUES QUE VOUS TRAITEZ PEUVENT MAINTENANT  
BÉNÉFICIER D'OPTIONS MOINS ÉPROUVANTES QUE PAR LE PASSÉ.**



Edgar Allan Poe



Jeanne d'Arc



Saint Paul



Sir Isaac Newton



Pythagore



Charles Dickens





# MAINTENANT INDIQUÉ CHEZ L'ENFANT



Comprimés et capsules à saupoudrer <sup>†</sup>TOPAMAX\* (topiramate) : indiqués en tant que traitement d'appoint dans la prise en charge des patients (adultes et enfants de deux ans ou plus) épileptiques dont l'état n'est pas maîtrisé de façon satisfaisante par le traitement traditionnel. Les renseignements sur l'emploi du topiramate en monothérapie sont encore limités.

## Efficacité en cas de crises partielles initiales :

### Posologie ajustée en fonction de la réponse de chaque patient<sup>4,5</sup> :

	N	Réduction ≥ 50 % du nombre de crises	Absence de crises
Adultes <sup>4,a</sup>	450	59 %	19 %
Enfants <sup>5,b</sup>	41	73 %	22 %

D'après les références 4 et 5

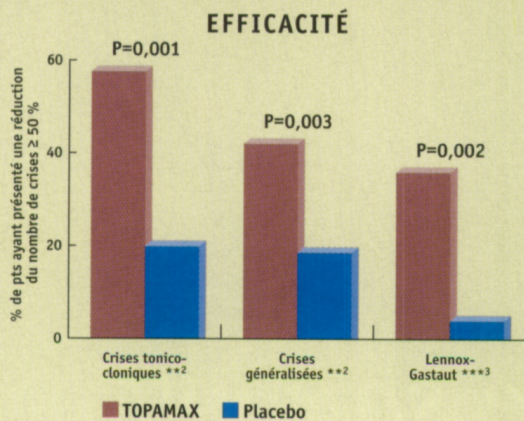
<sup>a</sup> Étude ouverte d'une durée de 20 semaines portant sur des adultes atteints de crises partielles initiales. Administration biquotidienne de TOPAMAX en tant que traitement d'appoint. La posologie optimale semblait comprise entre 300 et 350 mg/jour.

<sup>b</sup> Étude ouverte portant sur des enfants atteints de crises partielles initiales ayant participé à un essai à double insu contrôlé par placebo. Les réductions de la fréquence des crises ont été déterminées chez les enfants qui avaient été traités pendant au moins 3 mois. Administration biquotidienne de TOPAMAX en tant que traitement d'appoint. Les sujets ont reçu un traitement par topiramate pendant une période moyenne de 8 mois, selon une posologie moyenne de 10 mg/kg/jour (4-20 mg/kg/jour).

Pour connaître les posologies recommandées, reportez-vous aux Renseignements thérapeutiques concernant TOPAMAX\*.

## Meilleure maîtrise d'un grand nombre de types de crises :

- Des données complémentaires recueillies dans le cadre d'études randomisées, à double insu et contrôlées par placebo portant sur des adultes et un nombre restreint d'enfants ont en outre montré que ce médicament était efficace en tant que traitement d'appoint en cas de :
  - **crise tonico-clonique primaire généralisée<sup>1</sup>**
  - **crise associée au syndrome de Lennox-Gastaut<sup>1</sup>**



D'après les références 2 et 3

\*\*Phase de traitement à double insu d'une durée de 20 semaines (données de départ recueillies pendant une période initiale de 8 semaines, et période de traitement de 12 semaines) consistant en l'administration de TOPAMAX (n = 39, y compris 8 enfants ≤ 16 ans) en tant que traitement d'appoint à raison de 2x/j, ou d'un placebo (n = 41). La posologie de TOPAMAX était ajustée jusqu'à ce qu'une dose cible d'environ 6 mg/kg/jour soit atteinte.

\*\*\*Chutes brusques par dérobement des jambes et crises tonico-cloniques : phase de traitement à double insu d'une durée de 11 semaines consistant en l'administration de TOPAMAX (n = 48) à raison de 2x/j en tant que traitement d'appoint, ou d'un placebo (n = 50) : âge moyen des patients : 11,2 ans. La posologie de TOPAMAX était ajustée jusqu'à ce qu'une dose cible d'environ 6 mg/kg/jour soit atteinte.

**COMPRIMÉS DÉSORMAIS  
INSCRITS AU FORMULAIRE†**

†Indemnité partielle - Ontario, Nouvelle-Écosse, Nouveau-Brunswick, Î.-P.-É.  
Indemnité intégrale - Québec, Saskatchewan, Colombie-Britannique, Alberta, Manitoba

## Un traitement d'appoint approprié en première intention pour nombre de vos patients :

Profil d'effets secondaires favorable :

- Comme pour la plupart des antiépileptiques, les effets secondaires le plus fréquemment signalés relèvent du SNC<sup>††,6</sup> :

- Généralement légers à modérés, ils surviennent à un stade précoce du traitement et sont passagers<sup>1,6</sup>

- En cas de survenue d'effets secondaires :

Envisagez de réduire la posologie de TOPAMAX, le taux d'augmentation de la posologie, et/ou la posologie de l'antiépileptique administré de façon concomitante<sup>8</sup>.

- Chez les enfants traités dans le cadre des essais contrôlés, on n'a signalé aucun abandon du traitement attribuable à des manifestations indésirables lorsque la posologie était de 5 à 9 mg/kg/jour<sup>1</sup>.

## Profil d'innocuité :

- Aucune donnée n'a montré, jusqu'à présent, qu'il existait un lien entre l'emploi de TOPAMAX et les affections suivantes : éruption cutanée potentiellement mortelle, rétrécissement permanent du champ visuel ou syndrome des ovaires polykystiques<sup>1,c</sup>.
- Perte de poids

Adultes : une perte de poids modérée peut se produire au cours des 12 premiers mois, les pertes pondérales les plus importantes survenant entre le 3<sup>e</sup> et le 6<sup>e</sup> mois, avec un pic au 9<sup>e</sup> mois<sup>7</sup>.

Enfants : 96 % des enfants traités dans le cadre des essais cliniques pendant au moins un an et ayant subi une perte pondérale ont repris du poids au cours de la période d'exécution des essais<sup>11</sup>.

## Posologie BID commode<sup>1</sup>

Maintenant offert sous forme de capsules à saupoudrer à 15 et 25 mg, une présentation encore plus commode<sup>1</sup> :

La capsule peut être avalée entière ou on peut en saupoudrer le contenu sur de la nourriture

Les capsules sont bioéquivalentes aux comprimés TOPAMAX

† Les effets à long terme d'une perte pondérale n'ont pas été établis chez l'enfant.

†† Manifestations indésirables associées au SNC : Somnolence (30,1 %), étourdissements (28,3 %), ataxie (21,2 %), troubles de la parole (16,8 %), ralentissement psychomoteur (16,8 %), nystagmus (15,0 %), paresthésie (15,0 %), nervosité (15,9 %), problèmes de concentration/d'attention (8,0 %), confusion (9,7 %), dépression (8,0 %), anorexie (5,3 %), troubles du langage (6,2 %) et troubles de l'humeur (3,5 %)<sup>1</sup>. Une analyse portant sur 1 446 adultes et 303 enfants indique que ces deux groupes semblent présenter des profils de manifestations indésirables similaires<sup>1</sup>.

Pour obtenir des renseignements complets sur les modalités de prescription de TOPAMAX, veuillez vous reporter aux Renseignements thérapeutiques concernant ce produit.

c Données internes. JANSSEN-ORTHO Inc. Mai 1999

\* Tous droits afférents à une marque de commerce sont utilisés en vertu d'une licence

© 1999 JANSSEN-ORTHO Inc. JATX991005FA



Pour aider les patients épileptiques à mieux profiter de la vie





*They rely on her.*

*She relies on the strength of*

Once-A-Week  
**AVONEX<sup>®</sup>**



# CALL 1-888-456-2263 for all the facts on AVONEX<sup>®</sup> therapy.

## ***Proven to slow the progression of disability in relapsing forms of MS.<sup>1</sup>***

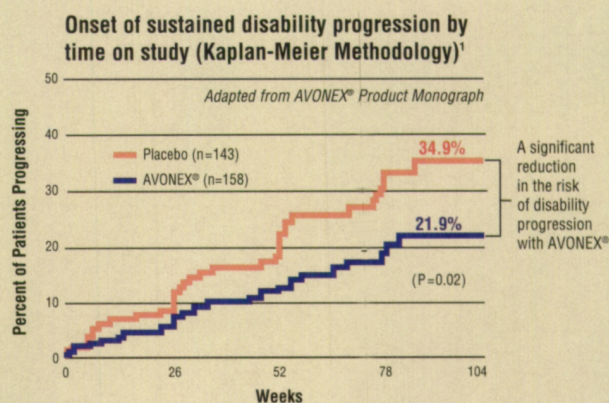
- Patients treated with AVONEX<sup>®</sup> showed a significant reduction in risk of disability progression and a 32% reduction in annual exacerbation rate over two years.<sup>2</sup>
- AVONEX<sup>®</sup> also demonstrated a significant MRI effect, showing an 89% reduction in gadolinium-enhanced lesions in patients with enhancement at baseline.<sup>3</sup>
- Prescribed for more than 50,000 patients worldwide, now available in Canada.<sup>4</sup>

## ***Compliance-enhancing once-a-week dosing.***

- Treatment with Once-a-Week AVONEX<sup>®</sup> results in minimal disruption of lives and mild side effects that decrease over time for most patients.<sup>1,3</sup>
- The most common side effects associated with AVONEX<sup>®</sup> treatment are flu-like symptoms and usually resolve within 24 hours after injection.<sup>1,3</sup> No cases of injection site necrosis have been reported for patients on AVONEX<sup>®</sup> therapy.<sup>1,5</sup>

## ***Superior Support Services***

- Extensive patient program including a 24 hour, 7 days a week 1-888 support line, injection training, delivery options and reimbursement counseling.



**ONCE-A-WEEK**  
**AVONEX<sup>®</sup>**  
(Interferon beta-1a)  
IM Injection

***Helping people with relapsing forms of MS  
get on with their lives.***

**BIOGEN**  
CANADA

www.biogenCanada.com

PAAB

Please see product monograph for important patient selection and monitoring information.



Now On Ontario  
Drug Benefit Formulary  
(Limited Use)<sup>†</sup>

Once-a-day Aricept<sup>®</sup>  
improves patient function:

For a more *active* day,  
a *brighter* tomorrow.



The loss of function that comes with Alzheimer's disease has a devastating effect on everyone involved: patient, caregiver and family.<sup>1</sup> Once-a-day Aricept<sup>®</sup> enhances cognition and improves patient function.<sup>2†</sup> Once-a-day Aricept<sup>®</sup> (10 mg o.d.) has been shown to significantly improve complex Activities of Daily Living (ADL).<sup>3</sup> A recent Canadian economic evaluation predicts that improvement in patient outcome will result in an overall healthcare cost saving.<sup>4</sup> And once-a-day Aricept<sup>®</sup> has proven efficacy, dosing simplicity<sup>§</sup> and tolerability<sup>‡</sup> in over 129 million patient days of therapy worldwide.<sup>5</sup>

Once-a-day Aricept<sup>®</sup>. To help your Alzheimer's patients enjoy more *active* days, and look forward to a *brighter* tomorrow.

Aricept<sup>®</sup> is indicated for the symptomatic treatment of patients with mild-to-moderate Alzheimer's disease. Aricept<sup>®</sup> has not been studied in controlled clinical trials for longer than 6 months.  
† Cognition measured by ADAS-cog and MMSE; function measured by CIBIC plus.  
‡ The most common side effects observed with Aricept<sup>®</sup> include diarrhea, muscle cramps, nausea and insomnia; these effects are usually mild and transient, resolving with continued use.  
§ For patients not responding after 4-6 weeks of therapy at 5 mg/d, a 10 mg/d dose may be considered.  
¶ Please see enclosed Prescribing Information before prescribing.  
¶ For more information on Limited Use criteria, please call 1-800-510-6141.

 **Once-a-day**  
**Aricept<sup>®</sup>**  
donepezil HCl 5 & 10 mg tablets

Hope for a brighter tomorrow

\* TM Eisai Co. Ltd., Tokyo, Japan  
Pfizer Canada Inc., licensee

© 1999  
Pfizer Canada Inc.  
Kirkland, Quebec  
H9J 2M5

PAAB



Life is our life's work