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THE CANADIAN JOURNAL OF  
**Neurological Sciences**  
LE JOURNAL CANADIEN DES  
**Sciences Neurologiques**

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AN INTERNATIONAL JOURNAL / UN JOURNAL INTERNATIONAL

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29th MEETING OF THE  
CANADIAN CONGRESS OF  
NEUROLOGICAL SCIENCES



St. John's Newfoundland

June 27 - 30, 1994

**ABSTRACTS**

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*The official Journal of:* The Canadian Neurological Society, The Canadian Neurosurgical Society,  
The Canadian Society of Clinical Neurophysiologists, The Canadian Association for Child Neurology

29th MEETING OF THE  
CANADIAN CONGRESS  
OF NEUROLOGICAL SCIENCES

Radisson Plaza Hotel  
St. John's, Newfoundland

June 27 - 30, 1994

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PROGRAM and  
ABSTRACTS

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## 1994 SCIENTIFIC PROGRAM

### SATURDAY, JUNE 25

#### Neurobiology Review Course: 1994

##### Development

Early Embryology of the Nervous System

Symptogenesis and Plasticity

Discussion

##### Trophic Factors

Neurotrophins - Their Role in Development and Regeneration

Growth Factors and Neural Plasticity

Growth Factors, Cytokines and Regeneration

Discussion

##### Regeneration

Prospects for Regeneration in the Spinal Cord

Experimental Regeneration in the Visual System

Discussion

Fetal Transplants in Basal Ganglia of Rodents and Primates

Fetal Grafts of Dopaminergic Neurons in Patients with Parkinson's Disease

Discussion

Update on Molecular Genetics of Neurological Diseases

Recent Advances in the Understanding of Genetic Disorders of the Nervous System

Dinner

Guest Speaker

Ken Kao (St. John's)

Penny Moody-Corbett (St. John's)

Richard Riopelle (Kingston)

Karen Mearow (St. John's)

Peter Richardson (Montreal)

Charles Tator (Toronto)

Garth Bray (Montreal)

Alan Fine (Halifax)

Alan Fine (Halifax)

Jean-Pierre Bouchard (Quebec)

TBA

### SUNDAY, JUNE 26

#### Child Neurology Day

##### Morning: Attention Deficit Hyperactivity Disorder (ADHD)

Definitions, Diagnosis, Clinical Spectrum

Pharmacology and Medical Management

Anatomical Substrates of ADHD

Neuroimaging Studies in ADHD

Scott Downey (St. John's)

William Logan (Toronto)

Peter Humphreys (Ottawa)

Martha Bridge-Denckla (Baltimore)

##### Afternoon: Workshop on Education and Manpower Needs

Facilitator: Daniel Keene (Ottawa)

Organizing Committee: F. Booth, J. Dooley, P. Humphreys, S. Whiting

##### Satellite Symposium I: Dystonia

Introduction

Dystonia: Clinical Features and Differential Diagnosis

Dystonia: Neuroanatomical and Neurochemical Alterations

Genetics of Dystonia

Pharmacological Management of Dystonia

Treatment of Cervical Dystonia, Blepharospasm and Hemifacial Spasm with Botulinum Toxin

Treatment of Focal Dystonias with Botulinum Toxin

Discussion

Mark Guttman (Toronto)

Terry Curran (Vernon)

Stephen Kish (Toronto)

Guy Rouleau (Montreal)

Joseph Tsui (Vancouver)

Earl Consky (Toronto)

Jean Rivest (Sherbrooke)

##### Satellite Symposium II: Radiosurgery and Interventional Radiology

Introduction: Historical Aspects, Current Issues

New Developments in Imaging - Impact on Neurological Practice

Stereotactic Radiosurgery: Precision, Quality Assurance

Stereotactic Radiosurgery vs. Conventional Radiotherapy

Radiosurgery for AVMs: Realistic Expectations

Michael Schwartz (Toronto)

T. Peters (Montreal)

P. O'Brien (Toronto)

C. Young (Toronto)

A. Kemeny (Sheffield, England)

Radiosurgery for Acoustic Neuromas  
Radiosurgery for Tumors  
The Future of Stereotactic Radiosurgery  
“Hands on” Demonstration of Radiosurgery Planning Software  
Endovascular Treatment (Embolization) of AVMs  
Endovascular Treatment (Coils) of Aneurysms  
Conclusion

### **Satellite Symposium III: The Non-Alzheimer Dementias**

Welcome and Introduction  
Dementias and Parkinson’s Disease  
Primary Progressive Aphasia and Related Disorders  
Frontal Lobe Dementia  
Dementia Associated with Overt or Sub-clinical Motor Neurone Disease  
Summary

### **Satellite Symposium IV: AIDS and the Nervous System**

Introduction  
Infection of CNS by HIV and Other Viruses in AIDS Patients  
Pediatric Neuro-AIDS  
Non-Viral Opportunistic Infections of the CNS in AIDS  
Brain Biopsy in AIDS: When, Why, With What Expectations

CNS and PNS in AIDS: Clinico-pathologic Considerations

### **Satellite Symposium V: Neurocritical Care**

Monitoring Cerebral Blood Flow and Metabolism in the Critical Care Unit  
Intensive Care Management of Subarachnoid Hemorrhage  
ICP Monitoring and Management

### **Satellite Presentation: Study Results**

The Canadian Multi Center Study of Converting Patients with Idiopathic Parkinson’s Disease to Sinemet CR

## **MONDAY, JUNE 27**

### **Meet the Expert Breakfast - Pediatric Neurology**

#### **Course I: Cervical Spine Instrumentation**

Guest Faculty: Edward Benzel, Robert Martin  
CNS Faculty: Michael Fehlings (Course Director), Mahmood Fazl,  
David Fairholm, Renn Holness, Marie Long, Charles Tator

Introductory Remarks  
Anterior Cervical Spine Instrumentation  
Posterior Cervical Spine Instrumentation  
Lab Session 1  
Lunch Lecture  
Biomechanics of Cervical Spine Instrumentation  
Lab Session 2  
Group Discussion & Closing Remarks

#### **Course II: Clinical Disorders of the Autonomic Nervous System**

Overview of ANS  
Neurotransmitters in the ANS  
Clinical Evaluation of the ANS  
Laboratory Testing of ANS  
Demonstration of ANS testing (Demonstration continues through lunch)  
Overview of ANS Disorders  
Shy-Drager Syndrome  
Peripheral Autonomic Neuropathy

Douglas Kondziolka (Pittsburgh)  
Jean-Louis Caron (Montreal)  
I. Podgorsak (Montreal)

R. Willinsky (Toronto)  
J. Raymond (Montreal)

William Pryse-Phillips (St. John’s)  
Richard Mayeux (New York)  
Andrew Kertesz (London)  
David Neary (Manchester, UK)  
Arthur Clark (Calgary)  
William Pryse-Phillips (St. John’s)

Harry Vinters (Los Angeles)  
George Rise (London)  
Jean Michaud (Montreal)  
Ian Bowmer (St. John’s)  
Janet Holden and  
Michael Boyd (Vancouver)  
Harry Vinters (Los Angeles)

Claudia Robertson (Houston)  
J. Max Findlay (Edmonton)  
Michael West (Winnipeg)

Serge Gauthier (Montreal)

Michael Fehlings (Toronto)  
Edward Benzel (Albuquerque)  
Michael Fehlings (Toronto)  
Faculty  
Edward Benzel (Albuquerque)  
Faculty

John Stewart (Montreal)  
Ronald Schondorf (Montreal)  
David Robertson (Nashville)  
Phillip Low (Rochester)  
Faculty  
John Stewart (Montreal)  
David Robertson (Nashville)  
Phillip Low (Rochester)

Syncope  
Approach to Male Sexual Dysfunction  
Treatment Strategies: Orthostatic Hypotension; Bladder, Bowel, Sexual Dysfunction; Hyperhidrosis, etc.

### **Course III: Pain**

Neurophysiology of Nociception  
Overview of Assessment, Diagnosis, and Management of Pain:  
How to do a Pain History and Physical Examination  
Practical Pharmacology and the Management of Severe Pain  
Higher Level Pharmacology and the Management of Neuropathic Pain  
Neurosurgical Techniques  
Chronic Non-Malignant Pain  
Reflex Sympathetic Dystrophy and Soft Tissue Pain  
Post-Herpetic Neuralgia  
Headache  
Multiple Sclerosis/Guillain Barré Syndrome

### **Course IV: Stroke and Stroke Prevention**

Molecules to Magnets: New Insights from the Laboratory  
Protection and Resuscitation of the Brain  
Excitotoxic Brain Necrosis: Effect of High and Even Low Blood Glucose Levels  
Mechanisms of Cell Stress and Cell Death in Neurological Disorders  
Excitatory and Inhibitory Mechanisms of Cell Injury  
MR Studies of Stroke: From Animal Models to Humans  
Apoptosis Following Ischemic Brain Injury  
Recovery from Ischemic Brain Injury - A Possible Role for Changes in Gene Expression  
Remacemide: Pharmacological Properties and Therapeutic Potential  
Imaging of the Brain in Stroke Practice  
Imaging of the Blood Vessels in Stroke Practice  
Surgical Aspects of Stroke Prevention  
Vascular Dementia: A Need for a New Approach  
Protection of Brain after Subarachnoid Hemorrhage  
Treatment of Threatening and Developing Cerebral Ischemia  
Round Table

## **TUESDAY, JUNE 28**

### **Meet the Expert Breakfast - Neurology**

#### **Poster Session I**

#### **Plenary Session I: Guest of the Congress**

Welcome  
Opening of the 29th Meeting  
**Speaker of the Royal College of Physicians and Surgeons of Canada - Neurology**  
Multiple Sclerosis as a Complex Trait

#### **Canadian Association of Child Neurology Guest Lecture**

Canadian Journal of Neurological Sciences Award  
McKenzie Memorial Prize for Basic Research in Neuroscience  
McKenzie Memorial Prize for Clinical Research in Neuroscience  
Herbert Jasper Memorial Prize  
André Barbeau Memorial Prize for Basic Research in Neuroscience

#### **Penfield Lecture**

Skull Base Surgery: The Triumph and the Defeat  
**Canadian Society of Clinical Neurophysiologists Guest Lecture**  
New Insights Into Using Quantitative Autonomic Testing

Ronald Schondorf (Montreal)  
John Stewart (Montreal)  
David Roberson & Faculty

Douglas Zochodne (Calgary)  
Neil Hagen (Calgary)

Neil Hagen (Calgary)  
Peter Watson (Toronto)  
Ronald Tasker (Toronto)  
Dwight Moulin (London)  
Robert Teasel (London)  
Peter Watson (Toronto)  
Marek Gawel (Toronto)  
Dwight Moulin (London)

Dale Corbett (St. John's)  
Alistair Buchan (Ottawa)  
Roland Auer (Calgary)

Robert Sloviter (New York)  
Garnette Sutherland (Calgary)  
John Saunders (Winnipeg)  
John MacManus (Ottawa)  
Harry Robertson (Halifax)  
Barry Watkins (New York)  
Antoine Hakim (Montreal)  
John Norris (Toronto)  
Gary Ferguson (London)  
Vladimir Hachinski (London)  
Bryce Weir (Chicago)  
Stephen Phillips (Halifax)

Alan Goodridge (St. John's)  
The Honourable Clyde K. Wells  
George Ebers (London)

Martha Bridge-Denkla (Boston)  
James Sharpe (Toronto)  
Gordon Baltuch (Montreal)  
Stefan Konasiewicz (Toronto)  
Andres Lozano (Toronto)  
Azad Bonni (Boston)  
Ossama Al-Mefty (Little Rock)

Phillip Low (Rochester)

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## Oral Presentations: Sessions A through D

### Session A - Surgical Oncology

K. G. McKenzie Memorial Prize for Basic Research  
Protein Kinase C  $\alpha$  Isoform Overexpression in C<sup>6</sup> Glioma Cells and Its  
Role in Cell Proliferation

Gordon Bultuch (Montreal)

### Session B - Cerebrovascular Disease

### Session C - Neuromuscular Disease

### Session D - Pediatric Neurology

## WEDNESDAY, JUNE 29

### Meet the Expert Breakfast - Neurosurgery

### Poster Session II

### Plenary Session II: Guests of the Congress

Welcome

President of the Congress  
Robert Martuza (Washington)

### Speaker of the Royal College of Physicians and Surgeons of Canada

Neurosurgery Development of Genetically Engineered Viruses  
for Brain Tumour Therapy

### Richardson Lecture

Prevention of Ischemia Following Subarachnoid Hemorrhage

Bryce Weir (Chicago)

## Oral Presentation: Sessions E through H

### Session E - Epilepsy Surgery

### Session F - Radiosurgery

### Session G - General Neurology

### Session H - Neurology - Behavioral

## Oral Presentations: Sessions I through L

### Session I - Cerebrovascular Surgery

### Session J - General Neurosurgery

K. G. McKenzie Memorial Prize for Clinical Research:  
An Analysis of Neurologic Function and Key Intracranial Physiological  
Parameters in the Acute Phase Post Severe Traumatic Brain Injury

Stefan Konasiewicz (Toronto)

### Session K - Neurology - Movement Disorders, Headache

Herbert Jasper Prize:

Microelectrode Recording Guided Medial Pallidotomy in Patients with  
Parkinson's Disease

Andres Lozano (Toronto)

### Session L - Neurophysiology

André Barbeau Memorial Prize for Basic Research:  
CREB is Multifunctional Transcription Factor that Propagates  
Neurotrophin and Neurotransmitter Signals in the Nucleus

Azad Bonni (Boston)

## THURSDAY, JUNE 30

### President's Symposium: Biology of Brain Tumours

Brain Tumours: From the '50s to the '90s  
Genetic Manipulation of the Cytoskeleton in Astrocytomas: Playing with  
a House of Cards  
Mechanism of Angiogenesis  
Growth Regulation Via Protein Kinase C in Malignant Gliomas  
Molecular Genetic Analysis of Brain Tumours  
Interactive Strategies for Brain Tumour Therapy  
Round Table  
Closing Remarks

Jean-Guy Villemure (Montreal)  
James T. Rutka (Toronto)

Rolando del Maestro (London)  
Gordon Baltuch (Montreal)  
Martin Rutledge (Montreal)  
Robert L. Martuza (Washington)