FINAL PROGRAM
17TH INTERNATIONAL CONGRESS OF PARKINSON’S DISEASE AND MOVEMENT DISORDERS

SYDNEY, AUSTRALIA
JUNE 16-20, 2013
**Austalian Minimum Product Information** - **BOTOX® (botulinum toxin type A) purified neurotoxin complex** is a prescription medicine containing 100 units (U) of botulinum toxin type A for injection. Indications: *Urinary incontinence due to neurogenic detrusor overactivity resulting from a defined neurological illness (such as spinal cord injury or multiple sclerosis) and not controlled adequately by anticholinergic agents. This does not include idiopathic overactive bladder, prostatism or prostatic hyperplasia in adults with chronic neurogenic bladder (patients at least 15 years per month of which at least 8 days are with incontinence); strabismus; blepharospasm associated with dystonia, including benign blepharospasm & VIIth nerve disorders (hemifacial spasm) in patients 12 years & over; cervical dystonia (spasmatic torticollis); focal spasticity of the upper & lower limbs; including dynamic equinus foot deformity due to spasticity in juvenile cerebral palsy; patients 2 years & older; severe primary hyperhidrosis of the axilla; focal spasticity in adults; spasmocryploysis; upper facial rhytides (glabellar lines, crow's feet and forehead lines) in adults. **Contraindications**: * Intradermal injection - acute urinary tract infection, acute urinary retention in patients who are not routinely catheterising, or who are not willing and/or able to initiate catheterisation post-treatment; * Intravenous; hypersensitivity to ingredients; myasthenia gravis or Eaton Lambert Syndrome; infection at injection site(s). **Precautions**: Different botulinum preparations are not therapeutically equivalent. Exercise extreme caution should substitution with another botulinum preparation be necessary. Botulinum toxin effects may be observed beyond site of local injection with symptoms consistent with mechanism of action and reported hours to weeks after injection. Symptoms may include muscular weakness, ptosis, diplopia, blurred vision, facial weakness, swallowing and speech disorders, constipation, aspiration pneumonia, difficulty breathing and respiratory depression. Risk of symptoms is greatest in children with spasticity, but can also occur in adults particularly those on high doses. Swallowing/ breathing difficulties can be life threatening and there have been reports of death (relationship to BOTOX® not established). "Serious adverse events including fatal outcomes have been reported in patients who had received BOTOX® injected directly into salivary glands, the oro-lingual-palatine region, esophagus and stomach. Use with anticholinergics or drugs that interfere with neuromuscular transmission; peripheral motor neuropathic diseases or neuromuscular junctional disorders; *Hypersensitivity reactions such as anaphylaxis and serum sickness, as well as urticaria, soft tissue oedema and dyspnoea; inflammation at injection sites; excessive weakness in target muscle; pregnancy & lactation. Generalised weakness & myalgia may be related to systemic absorption. **Blepharospasm**: Reduced blinking following injection of the orbicularis muscle can lead to corneal pathology. Caution with patients at risk of angle closure glaucoma, including anatomically narrow angles. **Strabismus**: Inducing paralysis in extraocular muscles may produce spatial disorientation, double vision or past pointing. Use in chronic paralytic strabismus only in conjunction with surgical repair to reduce antagonist overaction. **Spasticity** Not likely to be effective at a joint affected by a known fixed contracture. **Cervical Dystonia (spasmatic torticollis)**: Possibility of dysphagia or dyspnoea. May be decreased by limiting dose injected to the target muscle to <100U. **Primary Hypertrophic Blepharospasm** of the Abducens: Consider causes of secondary hyperhidrosis to avoid symptomatic treatment. **Sporadic Dysphonia**: Laryngoscopy in diagnostic evaluation is mandatory. Avoid treatment in patients due to have elective surgery requiring general anaesthesia. **Chronic Migraine**: Due to difficulties in establishing a diagnosis of chronic migraine, patients being considered for prophylaxis of headaches with BOTOX® should be evaluated by a neurologist or pain management specialist prior to receiving treatment with BOTOX®. **Neurogenic Detrusor Overactivity**: The intradetrusor administration of BOTOX® is only to be conducted by a urologist/urogynaecologist trained in this technique or by a urologist/urogynaecologist under the direct supervision of a urologist/urogynaecologist who has been so trained. **Cervical Dystonia (spasmatic torticollis)**: Possibility of dysphagia or dyspnoea. May be decreased by limiting dose injected to the target muscle to <100U. **Primary Hypertrophic Blepharospasm** of the Abducens: Consider causes of secondary hyperhidrosis to avoid symptomatic treatment. **Strabismus**: Initial doses 1.25 – 2.5U in medial & lateral pre-tarsal orbicularis oculi & into lower lid lateral pre-tarsal orbicularis oculi. **Cumulative dose over 2 months should not exceed 200U. Strabismus**: Initial doses 1.25 – 2.5U in injected into upper lid medial & lateral pre-tarsal orbicularis oculi & into lower lid lateral pre-tarsal orbicularis oculi. **Cumulative dose over 2 months should not exceed 200U. Strabismus**: Initial doses 1.25 – 2.5U in injected into upper lid medial & lateral pre-tarsal orbicularis oculi & into lower lid lateral pre-tarsal orbicularis oculi. **Cumulative dose over 2 months should not exceed 200U. 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Azilect®
rasagiline
– extend the now

Indications: Symptomatic treatment of idiopathic Parkinson’s disease, as monotherapy or adjunct therapy with a levodopa/decarboxylase inhibitor. Dosage & Administration: 1mg once daily with or without levodopa/decarboxylase inhibitor therapy. Tablets to be taken orally. Contraindications: hypersensitivity to rasagiline or tablet excipients, hepatic impairment, concomitant treatment with MAOIs, pethidine, tramadol, methadone, dextropropoxyphene, dextromethorphan, St John’s wort and potent CYP1A2 inhibitors. Precautions: serotonin syndrome, hypertensive crisis, dietary tyramine, dyskinesia, postural hypotension, hallucinations, melanoma, skin examinations. Interactions: MAOIs, pethidine, fluoxetine, fluvoxamine, serotonergic drugs, antidepressants, dextromethorphan, sympathomimetic drugs, levodopa, ciprofloxacin, potent CYP1A2 inhibitors, entacapone, alcohol, smoking, pregnancy (Category B3). Lactation. Adverse Events: accidental injury, abdominal pain, pain, postural hypotension, hypotension, nausea, constipation, dry mouth, vomiting, dyspepsia, anorexia, weight loss, arthralgia, dyskinesia, dizziness, sleep disorder, somnolence, hallucinations, dystonia, abnormal dreams, dyspnoea, rash, falls, hypertensive crisis, rhabdomyolysis, inappropriate ADH secretion, headache, flu syndrome, fever, malaise, neck pain, arthritis, depression, paraesthesia, vertigo, pharyngitis, rhinitis, conjunctivitis. For all other adverse events see full PI. Date of TGA approval: 12 September 2011. Date of Minimum PI: 11 December 2012.

PBS Information: Authority required (STREAMLINED). Parkinson’s disease

Please review the Approved Product Information (PI) before prescribing.
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**Download the 2013 MDS International Congress app to your iPhone®, iPad® or Android™**

- Search the scientific program
- View schedule of events
- Check poster schedules and much more!

*Remember to enable ‘Push Messages’ for important Congress updates!
Dear Colleagues,

On behalf of The Movement Disorder Society, we are pleased to formally invite you, for the first time, to the continent of Australia. Come to the “land down under” where the sun is warm, the culture is dynamic and the people are welcoming, to attend the 17th International Congress of Parkinson’s Disease and Movement Disorders in Sydney, June 16 - 20, 2013.

Situated next to long stretches of ocean and sandy beaches, Sydney is one of the largest, oldest and most multi-ethnic cities in Australia making it one of the world’s most beautiful places to live and visit. Let’s come together to learn about the latest research and therapies for movement disorders, collaborate with colleagues and actively participate in advancing the field of Movement Disorders, all while enjoying the history, sights, sounds, and tastes of Sydney and Australia.

We are looking forward to welcoming you to Sydney for the 17th International Congress and hope you will take part in the many exciting lectures and educational opportunities the 2013 International Congress offers.

With kind regards,

Günther Deuschl
President,
The Movement Disorder Society,
2011-2013

David John Burn
Chair,
Congress Scientific Program Committee,
2011-2013

Victor Fung
Co-Chair,
Congress Scientific Program Committee,
2013
Acknowledgement of Support

The International Congress Oversight Committee of the 17th International Congress of Parkinson’s Disease and Movement Disorders wishes to acknowledge and thank the following companies for their support:

### Platinum Level

- abbvie
- ALLERGAN
- Britannia Pharmaceuticals Ltd
- IPSEN Innovation for patient care
- NOVARTIS
- TEVA Neuroscience
- TEVA Pharmaceutical Industries Ltd
- Lundbeck
- UCB

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- Medtronic

### Bronze Level

- MERCK
- Lundbeck

Above companies are confirmed as of May 5, 2013
About MDS

The Movement Disorder Society (MDS) is an international, professional society of clinicians, scientists, and other healthcare professionals who are interested in Parkinson’s disease, related neurodegenerative and neurodevelopmental disorders, hyperkinetic movement disorders, and abnormalities in muscle tone and motor control. The spectrum of clinical disorders represented by the Society includes, but is not limited to:

- Ataxia
- Blepharospasm
- Dysphonia
- Dystonic disorders
- Gait disorders
- Huntington’s disease
- Myoclonus
- Parkinson’s disease
- Restless legs syndrome
- Spasticity
- Tardive dyskinesia
- Tics and Tourette syndrome
- Tremor

The Movement Disorder Society (MDS) was founded in 1985 on the initiative of Professors Stanley Fahn and C. David Marsden, whose leadership and vision guided the expansion of clinical expertise and research in this field. The organization merged in 1988 with the International Medical Society for Motor Disturbances.

Purpose, Mission And Goals

**Purpose:**
The objective and mission of the Society shall be to advance the neurological sciences pertaining to Movement Disorders; to improve the diagnosis and treatment of patients; to operate exclusively for scientific, scholarly and educational purposes; to encourage research; to provide forums, such as medical journals, scientific symposia and International Congresses, for sharing ideas and for advancing the related clinical and scientific disciplines; to encourage interest and participation in the activities of the Society among healthcare and allied professionals and scientists; and to collaborate with other related professional and lay organizations.

**Mission and Goals:**
To disseminate knowledge about Movement Disorders by:
- Providing educational programs for clinicians, scientists and the general public designed to advance scientific and clinical knowledge about Movement Disorders
- Sponsoring International Congresses and Symposia on Movement Disorders
- Collaborating with other international organizations and lay groups
- Publishing journals, videotapes and other collateral materials committed to high scientific standards and peer review

To promote research into causes, prevention and treatment of Movement Disorders by:
- Using the Society’s influence and resources to enhance support for research
- Facilitating the dissemination of information about research
- Encouraging the training of basic and clinical scientists in Movement Disorders and related disorders

For the purposes of favorably affecting the care of patients with Movement Disorders, the Society will provide expertise, advice and guidance to:
- Regulatory agencies to assist them in the approval process of safe and effective therapeutic interventions
- The public (media) and patient support groups by informing them of new research and therapeutic advances
- Governments to assist them in the development of policies that affect support of research and patient care
- Educational efforts to assist in developing standards of training in the specialty
About MDS

MDS Officers (2011-2013)

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Günther Deuschl, Germany

President-Elect
Matthew Stern, USA

Secretary
Cynthia Comella, USA

Secretary-Elect
Francisco Cardoso, Brazil

Treasurer
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Christopher Goetz, USA

Past-President
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David John Burn, United Kingdom
Murat Emre, Turkey
Susan Fox, Canada
Victor Fung, Australia
Etienne Hirsch, France
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Serge Przedborski, USA
Anthony Schapira, United Kingdom
A. Jon Stoessl, Canada

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Chair: Anthony Lang, Canada
David John Burn, United Kingdom
Günther Deuschl, Germany
Victor Fung, Australia
Nir Giladi, Israel
Andrew Lees, United Kingdom
Matthew Stern, USA
Philip Thompson, Australia

Congress Scientific Program Committee
Chair: David John Burn, United Kingdom
Co-Chair: Victor Fung, Australia
Roger Barker, United Kingdom
Daniela Berg, Germany
Erwan Bezard, France
Kailash Bhatia, United Kingdom
Bastiaan Bloem, Netherlands
Francisco Cardoso, Brazil
Günther Deuschl, Germany
Giovanni Fabbrini, Italy

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Susan Fox, Canada
Oscar Gershanik, Argentina
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Paul Krack, France
Anthony Lang, Canada
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Timothy Lynch, Ireland
Margarita Makoutonina, Australia
Pablo Martinez-Martin, Spain
Marcelo Merello, Argentina
Jose Obeso, Spain
Per Odin, Germany
Robert Rodnitzky, USA
Klaus Seppi, Austria
Philip Starr, USA
Matthew Stern, USA
Antonio Strafella, Canada
D. James Surmeier, USA
Ryosuke Takahashi, Japan
Louis Tan, Singapore
Philip Thompson, Australia

Past-Presidents
2009-2011 Philip Thompson, Australia
2007-2009 Anthony Lang, Canada
2005-2006 Andrew Lees, United Kingdom
2003-2004 C. Warren Olanow, USA
2001-2002 Werner Poewe, Austria
1999-2000 Mark Hallett, USA
1997-1998 Eduardo Tolosa, Spain
1995-1996 Joseph Jankovic, USA
1991-1994 C. David Marsden, United Kingdom
1988-1991 Stanley Fahn, USA

International Medical Society for Motor Disturbances Past-Presidents
1993-1994 C. Warren Olanow, USA
1991-1992 Bastian Conrad, Germany
1989-1990 Mark Hallett, USA
1987-1988 Mario Manfredi, Italy
1985-1986 C. David Marsden, United Kingdom

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Membership Information

Membership Benefits

- A subscription to the print, DVD, and online journal, Movement Disorders, including supplemental publications, such as The Movement Disorder Society Evidence Based Medicine Review: Treatments for Motor and Non-Motor Symptoms of Parkinson’s Disease.
- A unique selection of educational opportunities, including live and online CME/CPD activities and reference material on topics in Movement Disorders.
- Reduced fees for participation in the Society’s educational programs. Educational Programs include the annual International Congress of Parkinson’s Disease and Movement Disorders, and regional programs, courses and workshops held each year.
- A searchable online and mobile directory listing mailing addresses, telephone and fax numbers, and e-mail addresses for members.
- A Members-Only Section of the MDS website, including a searchable Video Library, Case of the Month, teaching slide sets, and one-time login access to full text articles in the Movement Disorders Journal.
- A quarterly newsletter entitled, Moving Along, highlighting current news and views in the field of Movement Disorders.
- Participation in the election of international and regional section leadership representatives.

FREE Membership!

Non-Members Applying for Membership

Non-Members will have the opportunity to apply for MDS membership at the International Congress for no additional fee with limited benefits through 2013, and full membership status, receiving the print journal, in January 2014. Membership applications will be provided to all Non-Member attendees onsite in their registration packet and must be returned to the MDS booth prior to the conclusion of the International Congress. No applications will be accepted by the Secretariat after June 20, 2013. *Only those paying the Non-Member registration fee will be eligible to apply for membership at no additional cost. This option is not available to those registering as a Junior or Health Professional participant or anyone who registered as part of a group. It is also not available to those who are already members of MDS.

2013-2014 will be another exciting year for MDS and we look forward to bringing you news of these and other new initiatives through the Movement Disorders journal, Moving Along newsletter and the MDS website.

For further information, please contact:
The Movement Disorder Society
International Secretariat
555 East Wells Street, Suite 1100
Milwaukee, WI 53202 USA
Tel: + 1 414-276-2145
Fax: + 1 414-276-3349
E-mail: info@movementdisorders.org
Website: www.movementdisorders.org
Cynapsus is proud to be a supporter of the 17th International Congress of Parkinson’s Disease and Movement Disorders.

We hope that our APL-130277 sublingual (oral mucosal) strip delivery of Apomorphine for the acute rescue of “off” episodes, might someday provide patients with an ease of use, and more tolerable alternative to Apomorphine Hydrochloride subcutaneous injections.
Education Information

MDS Educational Programming

MDS is committed to advancing the field of Movement Disorders by continuing to expand its educational program. This program offers an increasing variety of high caliber continuing medical education (CME) and continuing professional development (CPD) in movement disorders, including live courses, region-specific education, Internet education, support and endorsement opportunities, and enduring educational materials. MDS educational programming falls under the auspices of the MDS Education Committee, chaired by Louis Tan of the National Neuroscience Institute in Singapore, and co-chaired by Claudia Trenkwalder of Paracelsus-Elena Hospital in Kassel, Germany. The MDS Education Committee coordinates the development of these courses, which originate from one of the three dynamic regional sections: the European Section, the Asian and Oceanian Section, and the Pan American Section. Each section includes an Executive Committee and an Education Committee.

European Section

The MDS European Section (MDS-ES) comprises members who live in Europe as well as select countries in Northern Africa and the Middle East. The ES Executive Committee of The Movement Disorder Society is chaired by Werner Poewe of Innsbruck Medical University in Austria. The ES Education Committee is chaired by Joaquim Ferreira of the Lisbon School of Medicine in Portugal. During the past year, MDS-ES educational activities have been held in Paris, France; Stockholm, Sweden; Rome, Italy; Amsterdam, Netherlands; Innsbruck, Austria; Tartu, Estonia; Fès, Morocco; and Iași, Romania (MDS/EFNS Regional Teaching Course). The 6th Annual MDS-ES Summer School for Young Neurologists will be held in London in July 2013, and the first Allied Health Summer School will be held in Nijmegen, Netherlands, also in July 2013. The official MDS-ES website can be found at: www.movementdisorders.org/regional_sections/es/ and includes a wealth of programming and Section information, including leadership and mission, details about MDS Regional Development initiatives, and access to MDS-ES/EFNS European diagnosis and management recommendations. One can also find information on fellowships, links to scholarly papers and keynote publications, and a calendar of events.

For more information on the MDS-ES or its educational offerings, please e-mail: education@movementdisorders.org.

Asian and Oceanian Section

The MDS Asian and Oceanian Section (MDS-AOS) comprises MDS members from the majority of the Asian continent, as well as Australia, New Zealand and Oceania. The AOS Executive Committee of The Movement Disorder Society is chaired by Ruey-Meei Wu of National Taiwan University Hospital in Taipei. The Chair of the AOS Education Committee is Ryosuke Takahashi of Kyoto University Graduate School of Medicine in Japan. Madhuri Behari of the All India Institute of Medical Sciences in New Delhi is the Co-Chair of this committee. The AOS was formed in 2006 at the Kyoto, Japan MDS Congress. In the past year, MDS-AOS has helped develop educational programs in Delhi, Jaipur and Vadodara, India; Mandalay, Myanmar; Colombo, Sri Lanka; Kuala Lumpur, Malaysia and Manila, Philippines. The official MDS-AOS website can be found at: www.movementdisorders.org/regional_sections/aos/ and includes programming and Section information, details about AOS Regional Partners, leadership, the AOS Traveling Fellowship, and a calendar of events.

For further information on the MDS-AOS or its educational opportunities, please e-mail: education@movementdisorders.org.

Pan American Section

The MDS Pan American Section (MDS-PAS) is composed of members who live in the countries of the Western Hemisphere. The PAS Executive Committee of The Movement Disorder Society is chaired by Jorge Juncos of Emory University in Atlanta, GA, USA. The PAS Education Committee is chaired by Irene Litvan of the University of California, San Diego. Over the last 12 months, PAS education courses have taken place in Cochabamba, Bolivia; Santiago, Chile; Buenos Aires and Mendoza, Argentina; Managua, Nicaragua; and Toronto, ON, Canada. The official MDS-PAS website can be found at: www.movementdisorders.org/regional_sections/pas/ and includes a variety of programming and Section information, details about the Regional Needs Assessment Survey, MDS Conference Calendar and PAS calendar of events.

For additional information on the MDS-PAS or its educational programming, please e-mail: education@movementdisorders.org.
Education Information

MDS Outreach Education

MDS is committed to supporting quality movement disorders education in areas worldwide. The following programs were developed to meet the need for movement disorders education in areas currently lacking in continuing medical education in the field. Applications for each of these programs can be accessed at: www.movementdisorders.org/education/outreach_education.php.

For further information on MDS Outreach Education, please e-mail: education@movementdisorders.org.

Developing World Education Program

MDS European Section (ES), the MDS Asian and Oceanian Section (AOS) and the MDS Pan American Section (PAS) members may apply for grants to fund one- to two-day courses devoted to movement disorders. These courses may be stand-alone or joined to a local meeting in areas with a demonstrated need for movement disorders education. As part of this grant, international speakers are funded to speak at each course. Over the last year, programming has taken place in Jaipur, Vadodara, and Delhi, India; Mandalay, Myanmar; Fès, Morocco; and Chiangmai, Thailand.

Ambassador Program

The Ambassador Program supports the travel of 1-2 expert speakers to participate in a major regional or local movement disorders meeting. Sponsored speakers deliver a keynote lecture during the meeting. An honorarium is provided. Over the last year, Ambassador programs have been held in Moscow, Russia; Managua, Nicaragua; Colombo, Sri Lanka; and Mendoza, Argentina.

Visiting Professor Program

The Visiting Professor Program (VPP) supports the travel of 1-2 international experts. During the visit, invited experts conduct teaching seminars in local hospitals or institutions, participate in grand rounds, or provide input for the further development of the local movement disorders treatment and management. Visits may consist of one of these activities or a combination of all three. An honorarium is provided. The VPP program has been hosted over the last year in Buenos Aires, Argentina, and Kuala Lumpur, Malaysia.

MDS Website your ‘Communications Hub’ at the Congress and all year-round

We invite you to visit the MDS website – your Society’s “Communications Hub” for education, news and resources about the field of Movement Disorders. Log on to www.movementdisorders.org to access Members-Only features such as the Movement Disorders Journal, Case of the Month, Quick Opinion Please, Video Library, and the Membership Directory. Be sure to visit the Regional Sections of the website (European, Asian and Oceanian, and Pan American) to find news and activities happening in your part of the world.

Learn about online CME and worldwide professional development opportunities in our Education section. The Congress, workshops, conferences and seminars are listed and updated regularly on the website in the Announcements section.

MoveNet, a free networking directory for professionals, is a new way for you to meet others who work in the field of Movement Disorders. When you join MoveNet, you will receive updates from MDS delivered right to your inbox.

Website features include:

- Podcasts of the latest Movement Disorders Abstracts
- Movement Disorder Book Reviews
- Health Professionals (Non-Physician) Resources
- Movement Disorders Video Library
- Moving Along Newsletter
- Member Videos
- Movement Disorders Journal
- MDS-Owned Rating Scales
- MDS-UPDRS and UDysRS Training Program & Exercises
- EBM Reviews and Position Papers

Stay connected with colleagues and friends when you visit the Society’s social media communities. Join the MDS group on Facebook or join other movement disorders professionals on LinkedIn. View video interviews with key leaders in the Society on our YouTube channel.

While at Congress, follow MDS on Twitter @movedisorder. Get regular updates about news and activities or share your updates on Twitter any time, any place. Be sure to use #MDSCongress2013 in all of your tweets while at the Congress so others can follow your comments!

www.movementdisorders.org

Scan the code to go directly to the website
MDS Educational Resources

Educational DVDs
As part of its educational mission to expand the availability of educational content, MDS produces enduring materials of select programming. The following DVDs exemplify the current offerings of MDS and are available for purchase on the MDS website.

2013 MDS Video Challenge DVD, recorded June 19, 2013, Sydney, Australia
MDS is pleased to offer you the opportunity to view the MDS Video Challenge from the 17th International Congress on DVD. Each DVD includes slides, audio and video. These unique movement disorders cases were presented by representatives from Movement Disorder Centers around the world and discussed by senior experts in the field. The goal of this event was that attendees learn from a series of unusual, intriguing cases and see how senior experts approach and handle them. The DVD of the MDS Video Challenge from the 2013 Congress can be purchased at: www.mdscongress2013.org/dvds/video-games.php.

MDS Video Games DVD, recorded June 20, 2012, Dublin, Ireland
A DVD of the MDS Video Games from the 2012 Congress can be purchased at: www.movementdisorders.org/congress/congress12/video_games/.

VO Games DVD, recorded June 8, 2011, Toronto, ON, Canada
A DVD of the VO Games from the 2011 Congress can be purchased at: www.movementdisorders.org/congress/congress11/.

Congress Teaching Courses and Themed Sessions

17th International Congress Teaching Courses and Themed Sessions
The Teaching Courses and Themed Courses for the 17th International Congress are available for preorder on the International Congress website at www.mdscongress2013.org/. Each DVD will include slides, audio and video of the recorded presentations, and PDF syllabi for the Teaching Courses. Distribution of DVD orders will begin in September 2013.

The Teaching Course and Themed Course DVDs both include slides, audio, and video. The Teaching Course DVD includes PDF versions of the course syllabi.

17th International Congress Teaching Courses
• Movement disorders and epilepsy
• Biomarkers for early Parkinson’s disease
• Movement disorders emergencies
• DBS in movement disorders
• Recognizing and understanding hyperkinetic movement disorders
• Clinical examination in movement disorders
• Imaging techniques in degenerative movement disorders: A window on the pathologist’s world (also included on Themed Sessions DVD)
• Update on botulinum toxin treatment

17th International Congress Themed Sessions
• Clinicopathological correlations in Parkinson’s disease
• Inclusions in Parkinson’s disease: The link between pathology and molecular biology
• The basal ganglia in health and disease
• How to develop and run a brain bank
• The pathophysiology of hyperkinetic movement disorders
• Corticobasal syndrome: Clinical, neuroanatomical and genetic perspectives
• The mysteries of dopamine in health and disease
• How to assess cognitive function in parkinsonian syndromes
• Movement Disorders: Surprises in localization or pathology
• Multiple system atrophy: A wolf in sheep’s clothing
• What's new in essential and non-essential tremor?
• Regional atypical parkinsonian syndromes
• Imaging techniques in degenerative movement disorders: A window on the pathologist’s world (also included on Teaching Courses DVD)

DVDs from Past Congresses
The following Teaching Courses and Themed Sessions from previous Congresses are available to order at: www.movementdisorders.org/education/resources.php.

16th International Congress Teaching Courses (DVD also available as streaming video August 2013)
This DVD contains recordings of the Teaching Course Sessions of the 16th International Congress of Parkinson’s Disease and Movement Disorders in Dublin, Ireland. The DVD includes slides, audio and video of the eight teaching courses and PDF syllabi. The following topics are covered:
• Update on psychogenic movement disorders
• Update on management and diagnosis of early parkinsonism
• Frontotemporal dementias and parkinsonism
• Update on levodopa-induced dyskinesias
• Update on chorea
• Update on atypical parkinsonism
• Invasive therapies for advanced Parkinson’s disease
• The non-motor features of Parkinson’s disease
MDS Educational Resources

16th International Congress Themed Sessions DVD (also available as streaming video August 2013)
This DVD contains recordings of the Themed Sessions of the 16th International Congress of Parkinson’s Disease and Movement Disorders in Dublin, Ireland. The DVD includes slides, audio and video. The following topics are covered:

• Is it time to change how we define Parkinson’s disease?
• Molecular methodology for dummies: New investigative tools to shake up our understanding of Parkinson’s disease
• Whatever happened to environmental factors in the etiology of Parkinson’s disease? Are they still important?
• Is my movement disorder genetic and what does that mean for me and my family?
• Is Parkinson’s disease a mitochondrial or proteostatic disorder?
• Imaging genetics in movement disorders
• Frontotemporal dementias and parkinsonism
• How to critically read and interpret genetic and molecular biological literature in movement disorders (e.g. GWAS studies)
• Clinical clues and pearls in the recognition of the primary dystonias and dystonia plus syndromes: Genotype-Phenotype correlation
• What is essential tremor?
• How to interpret the mysteries of RNA and mitochondrial-mediated pathophysiology in movement disorders
• Clinical clues and pearls in the recognition of genetic forms of parkinsonism

15th International Congress Teaching Courses (available as streaming video only)
The Teaching Sessions of the 15th International Congress of Parkinson’s Disease and Movement Disorders in Toronto, ON, Canada, are available as streaming video.

• Update on myoclonus
• Non-motor features of Parkinson’s disease cognition
• Impulse control disorders (ICDs)
• From bench top to bedside: Current topics in translation research in movement disorders
• Neurodegeneration: The role of environmental factors
• New Unified Parkinson’s Disease Rating Scale: MDS-UPDRS
• Chorea, athetosis, and ballism
• Update on gait disorders

15th International Congress Themed Sessions

• Cognitive decline in movement disorders
• Gilles de la Tourette syndrome
• Psychiatric features of genetic movement disorders
• Bedside evaluation of cognition in movement disorders
• Impulsivity, addiction and reward mechanisms in movement disorders
• An update on psychogenic movement disorders
• Hallucinations and psychosis in Parkinson’s disease
• Impulse control disorders (ICDs)
• Psychogenic movement disorders: Video demonstrations and evaluation techniques
• The non-dementia associated cognitive and behavioral features of PD
• Startle, stereotypies and mannerisms; video cases
• Mood changes in Parkinson’s disease: Depression, anxiety and apathy

Educational Webcasts

Evidence Based Medicine Update on Treatments for Parkinson’s Disease: Webcast
The Evidence Based Medicine Update on Treatments for Parkinson’s disease outlines the concept of EBM and then presents the findings from the recent reviews. The following webcast captures this content as it was presented in Toronto, Ontario, Canada, on November 9, 2012.

Course Learning Objectives
1. Explain the concept of evidence based medicine
2. List the treatments available for the management of motor and non-motor symptoms of Parkinson’s disease
3. Identify the role of each agent in the treatment of Parkinson’s disease as indicated by the evidence based review
4. Discuss the clinical applications of each treatment in the management of Parkinson’s disease

To view the webcast, please visit: www.movementdisorders.org/education/educational_webcasts

2011 Edward I. Rudman Parkinson’s Disease Patient and Caregiver Symposium Webcast: Recent advances in Parkinson’s Disease
This webcast was created from the Edward I. Rudman Parkinson’s Disease Patient and Caregiver Symposium: Recent Advances in Parkinson’s Disease which took place on October 22, 2011 at The Conference Center at Harvard Medical School. Topics will cover the risk factors for Parkinson’s disease, gene therapy, new and future treatments, advances in Deep Brain Stimulation, exercise and dance for Parkinson’s disease, and creating a center of excellence.

To view the webcast, please visit: www.movementdisorders.org/education/patient_education/bidmc_2011.
MDS Educational Resources

Internet-based Certified CME

Online Journal CME
Visit www.movementdisorders.org/education/journalcme/ to view a list of Movement Disorders journal articles available for CME credit. MDS is accredited by the Accreditation Council for Continuing Medical Education to provide certified continuing medical educational for physicians. MDS designates a maximum of 1.0 AMA PRA Category 1 Credit™ each. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Coffee Break CME
Coffee Break CME is The Movement Disorder Society’s first online CME program specially designed for the busy clinician. For physicians who care for Parkinson’s disease (PD) and movement disorders patients, continuing education is critical to providing the best care possible. This program is designed to provide this information in a modular format. Each module focuses on a single topic that can be completed in a short period of time and provide the clinician with updated information that is relevant to their practice.

Currently, there are four modules available, covering topics in tremor and Parkinson’s disease. Once users have registered for a module, they are able to log in to the site as many times as needed to view all the material. MDS is accredited by the Accreditation Council for Continuing Medical Education to certify a maximum of 2.0 AMA PRA Category 1 Credits™ for each module. Physicians should only claim credit commensurate with the extent of their participation in the activity. Coffee Break CME can be accessed at: www.mdscoffeebreakcme.org/.

General Movement Disorders Resources

Parkinson and Movement Disorders Curriculum
The Parkinson and Movement Disorders (PMD) Curriculum is an overview of movement disorders and a clinical approach to the evaluation and management of common movement disorders. This curriculum is specially developed for trainees, internists, general neurologists and other clinicians interested in acquiring basic understanding of movement disorders. It is possible to apply for use of any specific topics or for the full curriculum to supplement an existing program. To learn more about how to apply to use the PMD Curriculum, please visit: www.movementdisorders.org/education/bmd_curriculum/.

Rating Scales and Training Videos

Rating Scales
MDS provides rating scales and related resources published by the Movement Disorders journal to physicians, researchers and health professionals interested in Parkinson’s disease and other movement disorders. By making these scales available, MDS works to improve the diagnosis of movement disorders and patient care, as well as increase the validity and reliability of research studies. You can access the rating scales below online by visiting: www.movementdisorders.org/publications/rating_scales/. Links to the MDS-UPDRS and UDysRS training programs and rating scales use permission forms are also available at this address. Licensing rates are free for individual use, but fees may apply for government, nonprofit or industry funded research.

The following rating scales are currently available:
• Global Assessment Scale for Wilson’s Disease (GAS for WD)
• Global Dystonia Scale
• Non-Motor Symptoms Scale (NMSQ) + (Includes NMSQ)
• Quality of Life Essential Tremor Questionnaire (QUEST)
• Rating Scale for Psychogenic Movement Disorders (PMD)
• Rush Dyskinesia Rating Scale *
• Rush Videobased Tic Rating Scale
• UFMG Sydenham’s Chorea Rating Scale (USCRS)
• Unified Dyskinesia Rating Scale (UDysRS) + *
• Unified Dystonia Rating Scale (UDRS)
• Unified Multiple System Atrophy Rating Scale (UMSARS)
• Unified Parkinson’s Disease Rating Scale (MDS-UPDRS) + *

Asterisk (*) indicates scale was developed by MDS; plus symbol (+) indicates translations of the scale are available.
MDS Educational Resources

Training Videos
The Movement Disorder Society publishes several audiovisuals, which are available for sale from the MDS International Secretariat. All materials are available in DVD or VHS format. Special reduced rates are available to MDS members. For more information or to place an order, visit: www.movementdisorders.org/publications/estore.php.

The titles that are currently available for purchase include:

**Instructional Video for Motor Fluctuation Diaries in Parkinson’s Disease**
Authored by C.G. Goetz, M. Grobman, L. Blasucci, and G.T. Stebbins, this instructional video demonstrates the 3 states of Parkinson’s disease, off, on, and on with dyskinesia, with the intent to assist patients in completion of their motor fluctuation diaries. This video is 15 minutes.

**Toronto-Western Spasmodic Torticollis Rating Scale TWSTRS Training Video**
Authored by C. Comella, S. Bressman, C.G. Goetz, and A. Lang, this instructional video demonstrates the 10 categories in the TWSTRS scale with verbal and visual examples of scoring in each category. This video is approximately 1 hour and 25 minutes.

**Unified Dyskinesia Rating Scale Teaching Program (UDysRS)**
Authored by C.G. Goetz, J. G. Nutt and G.T. Stebbins. This teaching program provides guidelines and rating examples of the Unified Dyskinesia Rating Scale, a new scale used for evaluating Parkinson’s disease. This video is approximately 52 minutes.

**Utility of an Objective Dyskinesia Rating Scale for Parkinson’s Disease: (Rush Dyskinesia Rating Scale)**
Authored by Goetz, et al. Movement Disorders Volume 9. Video Supplement. 2. This video provides guidelines and rating examples of the Rush Dyskinesia Rating Scale, a scale widely used for evaluating dyskinesias in Parkinson’s disease. This video is approximately 17 minutes.

**Unified Parkinson’s Disease Rating Scale Training Video**
(1995) Authored by C. G. Goetz, G.T. Stebbins, T. Chmura, S. Fahn, H. Klawans, and C. D. Marsden, this video demonstrates the different categories of the motor section of the UPDRS, with verbal and visual examples of scoring in each category. This video is approximately 1 hour.

**Standardized Training Tools for the UPDRS Activities of Daily Living Scale” (UPDRS Part II)**
(2003) Authored by C.G. Goetz, P.A. Lewitt, and M. Weidenman. Movement Disorders Volume 18, Video Supplement. 2. This video provides suggestions on the application and interview techniques for Part II of the UPDRS with patient examples and guidelines for raters. This video is approximately 1 hour and 15 minutes.

The Movement Disorder Society’s Unified Parkinson’s Disease Rating Scale (MDS-UPDRS) Training Video (2010)
The Movement Disorder Society (MDS)-sponsored new version of the UPDRS is founded on the critique that was formulated by the Task Force for Rating Scales in Parkinson’s disease (Mov Disord 2003;18:738-750). The MDS-UPDRS has four parts: Part I (non-motor experiences of daily living), Part II (motor experiences of daily living), Part III (motor examination) and Part IV (motor complications). This video is approximately 2 hours and 5 minutes.

Members-Only Educational Resources
The following resources are available to members only:

**Case of the Month**
Case of the Month is the MDS interactive online feature that presents unique and challenging movement disorders cases. MDS accepts submission for Case of the Month on a rolling basis. Case of the Month provides an opportunity for members to share interesting cases for educational purposes in the forum dedicated to movement disorders experts. To view the current Case of the Month, please visit: www.movementdisorders.org/membersonly/com/.

For information about submission requirements, including video format and patient consent forms, please visit: www.movementdisorders.org/membersonly/com/submit.php.

**Slide Sets**
This service enables learners to become familiar with the differential diagnosis and clinical features that define the various common involuntary movements as well as the course of treatment and complications of movement disorders.

Currently available slide sets are:
- Ataxia (Jennifer G. Goldman)
- Chorea (Kathleen M. Shannon)
- The Diagnosis and Management of Dystonia (Steven J. Frucht)
- Myoclonus: Diagnosis and Treatment (Steven J. Frucht)
- Parkinsonism (Kathleen M. Shannon)
- Restless Legs Syndrome (Charles H. Adler)
- Tics and Tourette Syndrome (Jennifer G. Goldman)

**Video Library**
The Video Library consists of video supplements from Movement Disorders journal since 1986. You may search the Video Library by keyword, author, volume and issue, or a combination of these fields. The Video Library is available at: www.movementdisorders.org/membersonly/videolibrary/.
Continuing Medical Education (CME) Information

**Purpose**
The purpose of the MDS International Congress is to offer a forum for clinical and basic discussion on a variety of Movement Disorder topics, including presentations of current research and available treatments.

**Learning Objectives**
Through state-of-the-art lectures, hot topic reviews, controversy debates, teaching courses, skills workshops and video sessions, participants will be better able to:
1. Describe the pathophysiology and neurobiology of Parkinson’s disease and other movement disorders;
2. Discuss the diagnostic approaches and tools available for Parkinson’s disease and other movement disorders;
3. Discuss the pharmacological and non-pharmacological treatment options available for Parkinson’s disease and other movement disorders.

**Continuing Medical Education**
The Movement Disorder Society designates this live activity for a maximum of 35.5 AMA PRA Category 1 Credits™. Physicians should claim only credit commensurate with the extent of their participation in the activity.

MDS 17th International Congress of Parkinson’s Disease and Movement Disorders™ is accredited by the European Accreditation Council for Continuing Medical Education (EACCME) to provide the following CME activity for medical specialists. The EACCME is an institution of the European Union of Medical Specialists (UEMS), www.uems.net.

The “MDS 17th International Congress of Parkinson’s Disease and Movement Disorders™” is designated for a maximum of (or “for up to”) 29 hours of European external CME credits. Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity.

Through an agreement between the European Union of Medical Specialists and the American Medical Association, physicians may convert EACCME credits to an equivalent number of AMA PRA Category 1 Credits™. Information on the process to convert EACCME credit to AMA credit can be found at www.ama-assn.org/go/internationalcme.

Live educational activities, occurring outside of Canada, recognized by the UEMS-EACCME for ECMEC credits are deemed to be Accredited Group Learning Activities (Section 1) as defined by the Maintenance of Certification Program of The Royal College of Physicians and Surgeons of Canada.

**Target Audience**
The target audience of the 17th International Congress of Parkinson’s Disease and Movement Disorders includes clinicians, researchers, post-doctoral fellows, medical residents, medical students and other healthcare professionals with an interest in the current research and approaches for the diagnosis and treatment of movement disorders.

**Faculty Financial Disclosure Information**
It is the policy of The Movement Disorder Society (MDS) to ensure balance, independence, objectivity and scientific rigor in all sponsored educational activities. All faculty participating in any MDS sponsored activities are required to disclose to the activity audience any real or apparent conflict(s) of interest that may have a direct bearing on the subject matter of the Continuing Medical Education (CME) activity. This pertains to relationships with pharmaceutical companies, biomedical device manufacturers, or other corporations whose products or services are related to the subject matter of the presentation topic. The intent of this policy is not to prevent a speaker with a potential conflict of interest from making a presentation. It is merely intended that any potential conflict should be identified openly so that the listeners may form their own judgments about the presentation with the full disclosure of the facts. It remains for the audience to determine whether the speaker’s outside interest may reflect a possible bias in either the exposition or the conclusions presented.

Faculty financial disclosure information will be provided to participants in Sydney.

**Claiming CME Credit**
To claim CME credit for your participation in the MDS 17th International Congress of Parkinson’s Disease and Movement Disorders, International Congress participants must complete and submit an online CME Request Form. This form will be available beginning June 20th.

Instructions for claiming credit:
• After June 20, 2013, please visit: www.mdscongress2013.org/registration/cme
• Log in after reading the instructions on the page. You will need your International Congress File Number which is located on your name badge or e-mail congress@movementdisorders.org
• Follow the on-screen instructions to claim CME credit for the sessions you attended
• You may print your certificate from your home or office, or save it as a PDF for your records
Before prescribing please refer to full Product Information, which is available from Ipsen Medical Information, Ph: (03) 8544 8100 or from http://secure.healthlinks.net.au/content/ipsen/pi.cfm?product=ispdyspi

Dysport®: Clostridium botulinum type A toxin-haemagglutinin complex (300, 500 IPSEN UNITS/vial). Indications: Spasticity of the upper limb in adults post-stroke; spasmatic torticollis in adults; dynamic equinus foot deformity due to spasticity in cerebral palsy patients, two years of age or older; blepharospasm in adults; hemifacial spasm in adults; moderate to severe glabellar lines in adults. Contraindications: Hypersensitivity to ingredients; myasthenia gravis or Eaton-Lambert (myasthenic) syndrome; infection at proposed injection site. Precautions: Do not exceed recommended dosages and frequencies of administration; adverse effects from toxin distribution to sites remote from the site of administration have been very rarely reported (excessive muscle weakness, dysphagia, aspiration pneumonia that may be fatal); use lowest effective dose and do not exceed recommended dose; use with caution in patients with: breathing and swallowing difficulties, evidence of drug-induced neuromuscular weakness/motor neurone disorders, and prolonged bleeding times; rare occurrence of antibody formation to botulinum toxin; contains small amount of human albumin so the risk of transmission of viral infection cannot be excluded; ready availability of adrenaline injection in cases of anaphylactic reaction. Drug Interactions: Muscle relaxants, aminoglycoside antibiotics and other drugs – use such drugs with caution (see full PI). Effect on driving/using machinery: Potential risk of muscle weakness or visual disturbances may temporarily impair ability to drive or operate machinery. Use in pregnancy only if benefit justifies risk; not recommended in lactation. Dysport® is not therapeutically equivalent to the other botulinum type A toxin preparation available in Australia. Extreme caution is required should it prove necessary to substitute the botulinum type A toxin of one pharmaceutical company by another. Adverse Events: Common to very common depending on indication: generalised weakness, fatigue, ‘flu-like syndrome, pain/bruising/swelling/reddening at injection site; dysphagia, weakness of the muscle being injected and/or adjacent muscle(s), accidental injuries/falls; headache, dizziness, facial paresis, blurred vision, visual acuity reduced, dysphonia, dysphagia, dysphoria, dry mouth, neck pain, musculoskeletal pain, myalgia, pain in extremity, musculoskeletal stiffness; diarrhoea, urinary incontinence, abnormal gait; ptosis; diplopia; dry eyes; tearing; eyelid oedema; asthenopia, muscle twitching – see full PI. Dose: The units of Dysport® are not interchangeable with other preparations of botulinum type A toxin. There should be a minimum interval between treatments of 12 weeks. Spasticity of upper limb post stroke: 500–1000 units per session, distributed amongst five muscles. Spasmatic torticollis: Initially 250–500 units in divided doses; subsequent doses between 250–1000 units. Cerebral palsy spasticity: Initially 20 units/kg bodyweight (10 units/kg for each calf); subsequent doses titrated between 10–30 units/kg bodyweight, divided between both legs. Dose must not exceed 1000 units per session. Blepharospasm & hemifacial spasm: Initially 40 units/eye; subsequent dose of 80 units/eye for longer duration to maximum of 120 units/eye. Glabellar lines: 50 units divided equally among 5 injection sites. Administration: Intramuscular injection for all indications except blepharospasm/hemifacial spasm where it is injected subcutaneously. See full PI for guidance on specific muscle sites to be injected and reconstitution instructions for 300U and 500U vials. Storage: 2°C–8°C. Date of first inclusion in ARTG: 16 June 2000 Date of most recent amendment: 20 September 2012.

For further information about Dysport®, contact your Ipsen representative or email us at info@ipsen.com.au.
International Congress Information A-Z

Abstracts and Poster Sessions
All accepted abstracts are presented as a poster at the 2013 International Congress, and published in an electronic supplement to the Movement Disorders journal, online edition. Additionally, select abstracts are presented in a Guided Poster Tour. Please visit www.movementdisorders.org to access The Movement Disorders Journal, where you can download a PDF of accepted abstracts.

Please see Poster Sessions and Guided Poster Tours for a listing of daily abstract presentations. For a complete listing of abstracts by topic, please see pages 22-24.

Late-Breaking Abstracts
All accepted Late-Breaking Abstract posters are displayed in Exhibition Hall 5, Monday through Thursday for the duration of the Congress.

Late-Breaking Abstract Poster presentations will take place Wednesday, June 19 from 12:00 – 13:30 in Exhibition Hall 5. A print supplement of the Late-Breaking Abstracts is available with the Congress registration materials.

MDS Study Group Abstracts
All accepted MDS Study Group Abstract posters are displayed in Exhibition Hall 5, Monday through Thursday for the duration of the Congress.

MDS Study Group Abstract Poster Presentations will take place Wednesday, June 19 from 12:00 – 13:30 in Exhibition Hall 5. A print supplement of the MDS Study Group Abstracts is available with the Congress registration materials.

Badges
All International Congress attendees will receive a name badge with their registration materials. Badges should be worn at all times as they are used to gain access into all International Congress sessions and activities. Badge colors will be identified as follows:

Blue = Delegate
Yellow = Exhibitor
Purple = Press
Black = Staff

Camera Policy
Cameras are not permitted in any 17th International Congress educational sessions or in the poster areas.

Certificate of Attendance
A certificate of attendance is available in the back of this Final Program.

Coffee Breaks
Please check the Program-at-a-Glance, page 36, for scheduled daily breaks. Coffee and tea will be available at the following times/locations:

Sunday, June 16, 10:00 – 11:00 ................. Bayside Foyer
Monday, June 17, 10:00 – 10:30 .................. Exhibition Hall 5
Tuesday, June 18, 10:00 – 11:00 ................. Exhibition Hall 5
Wednesday, June 19 10:00 – 10:30 .......... Exhibition Hall 5
Thursday, June 20, 9:30 – 10:00 .............. Exhibition Hall 5

Congress Information Desk
Location: Parkside Promenade, Ground Level (near Registration)

Continuing Medical Education (CME)
Please refer to page 17 for Continuing Medical Education information.

Currency
The exchange rate for US Dollars as of May 9, 2013 is:
1 USD = .98 AUD.

Evaluations
Please take time to complete the evaluation form provided at each session you attend. Your input and comments are essential in planning future educational programs for MDS.

Upon completion, evaluations may be returned to the session room attendants, or to the MDS Booth (located in Exhibition Hall 5).

Events
Welcome Ceremony
Sunday, June 16, 2013
19:30 to 21:30

All International Congress attendees are warmly invited to meet friends and colleagues during the traditional International Congress Welcome Ceremony, at the Sydney Convention and Exhibition Centre. This event is open to all registered delegates. Guests that are not registered delegates are able to purchase a Welcome Ceremony Pass that will allow them admission to this event. Please see below for more information on the Welcome Ceremony Pass.

Welcome Ceremony Pass
Participants who wish to bring an accompanying guest to the Welcome Ceremony may purchase a Welcome Ceremony Pass for $40 USD as part of their registration process. This Pass can only be used during the evening of the Welcome Ceremony on Sunday, June 16.
International Congress Information A-Z

MDS Video Challenge Pre-Event Gathering
Wednesday, June 19, 2013
19:00 – 20:00
Location: Bayside Grand Hall

MDS Video Challenge
Wednesday, June 19, 2013
20:00 – 22:00
Location: Bayside Auditorium B

Please join Masters of Ceremony Anthony Lang and Kapil Sethi
as they host a world-renowned panel of Movement Disorders
experts in guiding participants through unique Movement
Disorder cases. The cases will be presented by representatives
from Movement Disorder Centers around the world and
discussed by the Panel of Experts. Awards will be given for
the most interesting and challenging basis. Country pride will
add an enjoyable spirit of competition to this event. The goal of
this session is for attendees to learn from a series of unusual,
very interesting patients and see how senior experts approach
these types of challenging cases.

The 2013 Panel of Experts are:
Kailash Bhatia, United Kingdom
Marina De Koning-Tijssen, Netherlands
Werner Poewe, Austria
Rick Stell, Australia
Eng-King Tan, Singapore

Following the International Congress, the cases presented
could be developed further for publication in the Journal or
presentation on the Society’s website. This event is open to all
registered delegates.

Exhibit Hall
Location: Exhibition Hall 5
For more information, please refer to pages 64-65.

Exhibit Hall hours are as follows:
Sunday, June 16 ............................................. 19:30 – 21:30*
Monday, June 17 .......................................... 9:00 – 18:00
Tuesday, June 18 .......................................... 9:00 – 18:00
Wednesday, June 19 ...................................... 9:00 – 18:00
Thursday, June 20 ........................................... 9:00 – 16:00
(*during Welcome Ceremony)

Floor Plans of the Sydney Convention and
Exhibition Centre
Please refer to page 26-27.

Guided Poster Tours
Guided Poster Tours will be led by members of the MDS faculty
& leadership and the authors will be present to discuss the
abstracts. There will be 16 total Guided Poster Tours with four
simultaneous tours per day from Monday, June 17 through
Thursday, June 20. Each tour will feature abstracts on a
specific topic.

Please refer to page 25 for further Guided Poster Tour
information and schedules.

MDS Booth
Location: Exhibition Hall 5
The MDS Booth hours are as follows:
Sunday, June 16 ............................................. 19:30 – 21:30*
Monday, June 17 .......................................... 9:00 – 18:00
Tuesday, June 18 .......................................... 9:00 – 18:00
Wednesday, June 19 ...................................... 9:00 – 18:00
Thursday, June 20 ........................................... 9:00 – 16:00
(*during Welcome Ceremony)

MDS Rating Scales Testing Room
Information
Location: Parkside G01, Ground Level
• See examples of a rater administering the test to patients
• View examples of the rating items for the Motor Examination
  (Part III)
• Take an exercise at the end of the Training Program

The Rating Scales Testing Room hours are as follows:
Sunday, June 16 ............................................. 13:00 – 14:30
Monday, June 17 .......................................... 12:30 – 15:30
Tuesday, June 18 .......................................... 12:30 – 15:30
Wednesday, June 19 ...................................... 12:00 – 15:00
Thursday, June 20 ........................................... 12:00 – 15:00

Official Language
The official language of the International Congress is English.

Press Information
Members of the working media receive waived registration
for the 17th International Congress. Journalists and writers
should report to the Congress Information Desk, Parkside
Promenade, Ground Level, with their credentials to register
for the International Congress. All press must wear their name
badge for admittance into MDS sessions.
International Congress Information A-Z

Registration Desk
Location: Parkside Promenade, Ground Level

Name badges, scientific session tickets, purchased Welcome Ceremony Passes and International Congress bags can be collected at the International Congress Registration Desk.

Registration Desk hours are as follows:
Saturday, June 15 .............................. 16:00 – 20:00
Sunday, June 16 .................................. 7:00 – 18:00
Monday, June 17 .......................... 7:00 – 18:00
Tuesday, June 18 ........................ 7:00 – 18:00
Wednesday, June 19 ...................... 7:00 – 18:00
Thursday, June 20 .......................... 7:00 – 16:00
* Please note that these hours are subject to change.

Scientific Sessions
The 2013 Scientific Program will incorporate Therapeutic Plenary Sessions, Plenary and Parallel Sessions, Teaching Courses, Video Sessions, Skills Workshops, Guided Poster Tours and Blue Ribbon Highlights.

Sessions will focus on the latest developments in:
• Genetics in Movement Disorders
• Movement Disorder topics, including, but not limited to, ataxia, chorea, dystonia, myoclonus, Parkinson's disease, restless legs syndrome, spasticity, stereotypies, tics and tremors
• Basic Science issues, including, but not limited to, genetics, neuroimaging, neuropharmacology, surgical therapy and transplantation
• Other less common clinical conditions

Special Accessibility Needs
To ensure any special needs can be properly met, special needs should have been addressed in advance with the MDS International Secretariat. Delegates requiring special arrangements in order to fully participate in the International Congress should provide a written description of such needs to the Congress Information Desk upon arrival.

Speaker Ready Room
Location: Bayside 101, Level 1

All speakers and Guided Poster Tour presenters must check in at the Speaker Ready room with their presentation materials the day prior to their scheduled presentation. Equipment is available to allow faculty and presenters to review their presentations. Audio/Visual personnel will be available for assistance.

The Speaker Ready Room hours are as follows:
Saturday, June 15 .............................. 16:00 – 20:00
Sunday, June 16 .................................. 7:00 – 18:00
Monday, June 17 .......................... 7:00 – 18:00
Tuesday, June 18 ........................ 7:00 – 18:00
Wednesday, June 19 ...................... 7:00 – 18:00
Thursday, June 20 .......................... 7:00 – 16:00

Ticketed Sessions
Tickets are required for admission into all Parallel Sessions, Teaching Courses, Video Sessions, and Skills Workshops. There is no additional fee for tickets to these sessions. Please check the Registration Desk for ticket availability.

Therapeutic Plenary Sessions, Plenary Sessions, Guided Poster Tours and poster sessions do not require a ticket to attend.

Venue
The Sydney Convention and Exhibition Centre
Darling Harbour
Sydney NSW 2000
Australia

Weather
The average daytime temperature in Sydney in June is approximately 50° F (10° C).
Abstract Information

Poster Sessions

Poster sessions give each delegate an opportunity to view their colleagues’ posters on the most current research in the field of Movement Disorders. Authors will be present for 1.5 hours each day to explain their work and answer questions. All accepted abstracts are presented as a poster at the 2013 International Congress.

Poster sessions will be held Monday through Thursday during the Congress, in the Sydney Convention and Exhibition Centre, Exhibition Hall 5. Posters are available for viewing from 9:00 – 18:00 Monday through Wednesday, and 9:00 – 16:00 on Thursday. Poster session schedules vary by date; please see the Poster Session Schedules for specific times and session topics.

Late-Breaking Abstracts

All accepted Late-Breaking Abstract posters are displayed in Exhibition Hall 5, Monday through Thursday throughout the duration of the Congress. Late-Breaking Abstract Poster Presentations will take place Wednesday, June 19 from 12:00 – 13:30 in Exhibition Hall 5.

MDS Study Group Abstracts

All accepted MDS Study Group Abstract posters are displayed in Exhibition Hall 5, Monday through Thursday throughout the duration of the International Congress. MDS Study Group Abstract Poster Presentations will take place Wednesday, June 19 from 12:00 – 13:30 in Exhibition Hall 5.

Abstract Publication

All regular accepted abstracts are published in a supplement to the MDS Journal. Please visit www.movemetndisorders.org to access The Movement Disorders Journal, where you can download a PDF of accepted abstracts. Late-Breaking Abstracts and MDS Study Group Abstracts will be published as a print supplement in the Congress registration bag.

Poster Session Schedules

Sunday, June 16, 2013
No poster sessions on Sunday

Monday, June 17, 2013
Poster Session: 12:30 – 14:00
Poster viewing: 9:00 – 18:00
Location: Exhibition Hall 5

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<tr>
<td>324 - 330</td>
<td>Rating scales</td>
</tr>
</tbody>
</table>

Tuesday, June 18, 2013
Poster Session: 12:30 – 14:00
Poster viewing: 9:00 – 18:00
Location: Exhibition Hall 5

<table>
<thead>
<tr>
<th>Poster numbers</th>
<th>Poster Topic</th>
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</thead>
<tbody>
<tr>
<td>331 - 382</td>
<td>Parkinson’s disease: Behavioral disorders</td>
</tr>
<tr>
<td>383 - 499</td>
<td>Parkinson’s disease: Clinical Trials (parkinson plus and secondary)</td>
</tr>
<tr>
<td>500 - 575</td>
<td>Parkinson’s disease: Cognition</td>
</tr>
<tr>
<td>576 - 620</td>
<td>Parkinson’s disease: Neuropsychology</td>
</tr>
<tr>
<td>621 - 649</td>
<td>Parkinson’s disease: Sleep disorders</td>
</tr>
<tr>
<td>650 - 657</td>
<td>Restless legs syndrome</td>
</tr>
<tr>
<td>658 - 665</td>
<td>Tics/Stereotypies</td>
</tr>
</tbody>
</table>
### Abstracts

#### Poster Session Schedules

**Wednesday, June 19, 2013**
- Poster Session: 12:00 – 13:30
- Poster viewing: 9:00 – 18:00
- Location: Exhibition Hall 5

<table>
<thead>
<tr>
<th>Poster numbers</th>
<th>Poster Topic</th>
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</thead>
<tbody>
<tr>
<td>666 - 713</td>
<td>Ataxia</td>
</tr>
<tr>
<td>714 - 730</td>
<td>Chorea (non-Huntington’s disease)</td>
</tr>
<tr>
<td>731 - 742</td>
<td>Clinical Electrophysiology</td>
</tr>
<tr>
<td>743 - 769</td>
<td>Huntington’s disease</td>
</tr>
<tr>
<td>770 - 849</td>
<td>Parkinsonism (secondary and parkinsonism-plus)</td>
</tr>
<tr>
<td>850 - 911</td>
<td>Parkinson’s disease: Phenomenology</td>
</tr>
<tr>
<td>912 - 938</td>
<td>Pediatric movement disorder</td>
</tr>
<tr>
<td>939 - 979</td>
<td>Tremor</td>
</tr>
<tr>
<td>980 - 991</td>
<td>Wilson’s disease, storage and metabolic movement disorders</td>
</tr>
</tbody>
</table>

**Late-Breaking Abstracts Poster Session**
- Poster Session: 12:00 – 13:30
- Location: Exhibition Hall 5

<table>
<thead>
<tr>
<th>Poster numbers</th>
<th>Poster Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>992 - 998</td>
<td>Drug-induced movement disorders</td>
</tr>
<tr>
<td>999 - 1003</td>
<td>Spasticity</td>
</tr>
<tr>
<td>1004 - 1068</td>
<td>Basic Science</td>
</tr>
<tr>
<td>1069 - 1080</td>
<td>Education in movement disorders</td>
</tr>
<tr>
<td>1081 - 1104</td>
<td>Epidemiology</td>
</tr>
<tr>
<td>1105 - 1173</td>
<td>Genetics</td>
</tr>
<tr>
<td>1174 - 1178</td>
<td>History</td>
</tr>
<tr>
<td>1179 - 1187</td>
<td>Lewy Body Dementia and other dementias in movement disorders</td>
</tr>
<tr>
<td>1188 - 1195</td>
<td>Myoclonus</td>
</tr>
<tr>
<td>1196 - 1206</td>
<td>Neuropharmacology</td>
</tr>
<tr>
<td>1207 - 1216</td>
<td>Quality of life/caregiver burden in movement disorders</td>
</tr>
<tr>
<td>1217 - 1247</td>
<td>Surgical Therapy: Other movement disorders</td>
</tr>
<tr>
<td>1248 - 1322</td>
<td>Surgical Therapy: Parkinson’s disease</td>
</tr>
</tbody>
</table>

**MDS Study Group Abstracts Poster Session**
- Poster Session: 12:00 – 13:30
- Location: Exhibition Hall 5

<table>
<thead>
<tr>
<th>Poster numbers</th>
<th>Poster Topic</th>
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</thead>
<tbody>
<tr>
<td>1179 - 1187</td>
<td>Lewy Body Dementia and other dementias in movement disorders</td>
</tr>
<tr>
<td>1188 - 1195</td>
<td>Myoclonus</td>
</tr>
<tr>
<td>1196 - 1206</td>
<td>Neuropharmacology</td>
</tr>
<tr>
<td>1207 - 1216</td>
<td>Quality of life/caregiver burden in movement disorders</td>
</tr>
<tr>
<td>1217 - 1247</td>
<td>Surgical Therapy: Other movement disorders</td>
</tr>
</tbody>
</table>

**Thursday, June 20, 2013**
- Poster Session: 13:00 – 14:30
- Poster viewing: 9:00 – 16:00
- Location: Exhibition Hall 5

<table>
<thead>
<tr>
<th>Poster numbers</th>
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</tr>
</thead>
<tbody>
<tr>
<td>999 - 1003</td>
<td>Spasticity</td>
</tr>
<tr>
<td>1004 - 1068</td>
<td>Basic Science</td>
</tr>
<tr>
<td>1069 - 1080</td>
<td>Education in movement disorders</td>
</tr>
<tr>
<td>1081 - 1104</td>
<td>Epidemiology</td>
</tr>
<tr>
<td>1105 - 1173</td>
<td>Genetics</td>
</tr>
<tr>
<td>1174 - 1178</td>
<td>History</td>
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<tr>
<td>1188 - 1195</td>
<td>Myoclonus</td>
</tr>
<tr>
<td>1196 - 1206</td>
<td>Neuropharmacology</td>
</tr>
<tr>
<td>1207 - 1216</td>
<td>Quality of life/caregiver burden in movement disorders</td>
</tr>
<tr>
<td>1217 - 1247</td>
<td>Surgical Therapy: Other movement disorders</td>
</tr>
<tr>
<td>1248 - 1322</td>
<td>Surgical Therapy: Parkinson’s disease</td>
</tr>
</tbody>
</table>

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### MDS Rating Scales Training Programs

Training programs for the Unified Parkinson’s Disease Rating Scale (MDS-UPDRS) and the Unified Dyskinesia Rating Scale (UDysRS)
- See examples of a rater administering the scales to patients
- View examples of the rating items
- Take an exercise at the end of the training program

**Testing room hours:**
- Sun, June 16: 13:00pm – 14:30pm
- Mon, June 17: 12:30 – 15:30
- Tues, June 18: 12:30 – 15:30
- Wed, June 19: 12:00 – 15:00
- Thurs, June 20: 12:00 – 15:00

**Location:** Parkside G01, Ground Level

For more information or to take the MDS Rating Scale Training Programs before Congress, please visit:
- [www.movementdisorders.org/updrs](http://www.movementdisorders.org/updrs)
- [udysrs.movementdisorders.org](http://udysrs.movementdisorders.org)
Abstracts
Poster Session Topics (Alphabetically)

666 - 713 Ataxia
Wednesday, June 19

1004 - 1068 Basic Science
Thursday, June 20

714 - 730 Choreres (non-Huntington’s disease)
Wednesday, June 19

731 - 742 Clinical Electrophysiology
Wednesday, June 19

992 - 998 Drug-induced movement disorders
Thursday, June 20

1 - 95 Dystonia
Monday, June 17

1069 - 1080 Education in movement disorders
Thursday, June 20

1081 - 1104 Epidemiology
Thursday, June 20

96 - 104 Gene Therapies and Cell-based Therapies
Monday, June 17

1105 - 1173 Genetics
Thursday, June 20

1174 - 1178 History
Thursday, June 20

743 - 769 Huntington’s disease
Wednesday, June 19

1179 - 1187 Lewy body dementia and other dementias in movement disorders
Thursday, June 20

1188 - 1195 Myoclonus
Thursday, June 20

105 - 182 Neuroimaging
Monday, June 17

1196 - 1206 Neuropharmacology
Thursday, June 20

770 - 849 Parkinsonism (secondary and parkinsonism-plus)
Wednesday, June 19

331 - 382 Parkinson’s disease: Behavioral disorders
Tuesday, June 18

383 - 499 Parkinson’s disease: Clinical Trials
Tuesday, June 18

500 - 575 Parkinson’s disease: Cognition
Tuesday, June 18

183 - 197 Parkinson’s disease: Dysautonomia
Monday, June 17

198 - 242 Parkinson’s disease: Electrophysiology
Monday, June 17

576 - 620 Parkinson’s disease: Neuropharmacology
Tuesday, June 18

850 - 911 Parkinson’s disease: Phenomenology
Wednesday, June 19

243 - 292 Parkinson’s disease: Quality of Life/ Caregiver burden
Monday, June 17

293 - 323 Parkinson’s disease: Rating scales
Monday, June 17

621 - 649 Parkinson’s disease: Sleep disorders
Tuesday, June 18

912 - 938 Pediatric movement disorders
Wednesday, June 19

1207 - 1216 Quality of life/caregiver burden in movement disorders
Thursday, June 20

324 - 330 Rating scales
Monday, June 17

650 - 657 Restless legs syndrome
Tuesday, June 18

999 - 1003 Spasticity
Thursday, June 20

1217 - 1247 Surgical Therapy: Other movement disorders
Thursday, June 20

1248 - 1322 Surgical Therapy: Parkinson’s disease
Thursday, June 20

658 - 665 Tics/Stereotypies
Tuesday, June 18

939 - 979 Tremor
Wednesday, June 19

980 - 991 Wilson’s disease, storage and metabolic movement disorders
Wednesday, June 19
Guided Poster Tours

Guided Poster Tours give groups of delegates an opportunity to hear discussion on a select group of abstracts in several sub-categories. Attendance is limited, and admission will be granted on a first-come, first-served basis (up to 150 attendees). 2013 Guided Poster Tours do not require a ticket to attend.

Publication

A list of Guided Poster Tour abstracts and authors can be found on pages 70-77. Abstracts selected for a Guided Poster Tour presentation are published in a supplement to the MDS Journal.

Guided Poster Tour Schedule

**Sunday, June 16, 2013**
No Guided Poster Tours on Sunday

**Monday, June 17, 2013**
12:30 – 14:00

<table>
<thead>
<tr>
<th>Guided Poster Tour (GPT)</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPT 1: Basic science</td>
<td>Bayside Level 1, Bayside Gallery A</td>
</tr>
<tr>
<td>GPT 2: Parkinson’s disease: Behavioral disorders <strong>Supported by an unrestricted educational grant from UCB Pharma SA</strong></td>
<td>Bayside Level 1, Bayside Gallery B</td>
</tr>
<tr>
<td>GPT 3: Parkinson’s disease: Neuropharmacology</td>
<td>Bayside Level 2, Bayside 201-203</td>
</tr>
<tr>
<td>GPT 4: Sleep disorders and RLS <strong>Supported by an unrestricted educational grant from UCB Pharma SA</strong></td>
<td>Bayside Level 2, Bayside 204</td>
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</table>

**Tuesday, June 18, 2013**
12:30 – 14:00

<table>
<thead>
<tr>
<th>Guided Poster Tour (GPT)</th>
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<tbody>
<tr>
<td>GPT 5: Dystonia</td>
<td>Bayside Level 1, Bayside Gallery A</td>
</tr>
<tr>
<td>GPT 6: Parkinsonisms (parkinson plus and secondary)</td>
<td>Bayside Level 1, Bayside Gallery B</td>
</tr>
<tr>
<td>GPT 7: Rating scales and assessment tools</td>
<td>Bayside Level 2, Bayside 201-203</td>
</tr>
<tr>
<td>GPT 8: Surgical therapy: Parkinson’s disease</td>
<td>Bayside Level 2, Bayside 204</td>
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</table>

**Wednesday, June 19, 2013**
12:00 – 13:30

<table>
<thead>
<tr>
<th>Guided Poster Tour (GPT)</th>
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</thead>
<tbody>
<tr>
<td>GPT 9: Parkinson’s disease: Cognition</td>
<td>Bayside Level 1, Bayside Gallery A</td>
</tr>
<tr>
<td>GPT 10: Genetics</td>
<td>Bayside Level 1, Bayside Gallery B</td>
</tr>
<tr>
<td>GPT 11: Lewy body dementia and other dementias in movement disorders</td>
<td>Bayside Level 2, Bayside 201-203</td>
</tr>
<tr>
<td>GPT 12: Surgical therapy of movement disorders other than Parkinson’s disease</td>
<td>Bayside Level 2, Bayside 204</td>
</tr>
</tbody>
</table>

**Thursday, June 20, 2013**
13:00 – 14:30

<table>
<thead>
<tr>
<th>Guided Poster Tour (GPT)</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPT 13: Huntington’s disease</td>
<td>Bayside Level 1, Bayside Gallery A</td>
</tr>
<tr>
<td>GPT 14: Parkinson’s disease: Clinical trials</td>
<td>Bayside Level 1, Bayside Gallery B</td>
</tr>
<tr>
<td>GPT 15: Parkinson’s disease: Phenomenology</td>
<td>Bayside Level 2, Bayside 201-203</td>
</tr>
<tr>
<td>GPT 16: Tremor</td>
<td>Bayside Level 2, Bayside 204</td>
</tr>
</tbody>
</table>
Convention Centre Map
Convention Centre Map
MDS Awards

Honorary Membership Awards
The Honorary Membership Awards recognize individuals who have made extraordinary contributions to the field of Movement Disorders or otherwise to The Movement Disorder Society.

Sunday, June 16
Opening Ceremony
19:30 - 21:30
Location: Bayside Auditorium B

Joseph Jankovic, MD
Houston, TX, USA

John G. Nutt, MD
Portland, OR, USA

President’s Distinguished Service Award
The President’s Distinguished Service Award is given in recognition of long and distinguished service to The Movement Disorder Society.

Sunday, June 16
Opening Ceremony
19:30 - 21:30
Location: Bayside Auditorium B

Stanley Fahn Lecture
Wednesday, June 19 as part of 4103 Plenary Session IX: The Presidential Lectures
8:00 - 8:30

The Stanley Fahn Award Lecture was created to recognize an outstanding scholar and role-model clinician in the field of Movement Disorders. The selected lecturer must show evidence of exceptional contributions which have resulted in better understanding of the cause, diagnosis, or treatment of Movement Disorders, and have translated into meaningful improvements in the standard of clinical practice. The selected lecturer must demonstrate evidence of consistent dedication to Movement Disorders education and research.

The signs of a neurologist
Stanley Fahn Lecturer – Philip Thompson, MBBS (Adelaide), PhD (London), FRACP

Philip Thompson is the Professor of Neurology in the University Department of Medicine at the University of Adelaide and Head of the Department of Neurology at the Royal Adelaide Hospital.

Prof. Thompson trained in Adelaide, Perth and London. He developed his interest in Movement Disorders and the control of human movement under the guidance of the late Professor C. David Marsden at Kings College Hospital, the Institute of Psychiatry, the National Hospital for Neurology and Neurosurgery and the MRC Human Movement and Balance Unit, Queen Square. His research has focused on the physiology of motor control in normal subjects, the mechanisms of brain stimulation, and disorders of motor control in neurological disease, particularly movement disorders. He is also interested in the physiological basis of clinical signs in Neurology and the ways in which Neurologists recognize these signs.

Prof. Thompson has served on the International Executive Committee of The Movement Disorder Society for the last 14 years including as Secretary of The Movement Disorder Society from 2004-2006, President of The Movement Disorder Society from 2009-2011 and is currently serving as Past-President. He was Chair of the Asian and Oceanian Section of The Movement Disorder Society from 2005-2006. He served on the Council of the Australian Association of Neurologists from 2003-2009. He has served two terms on the International Editorial Board of the Movement Disorders Journal.

He also has published more than 300 articles and book chapters with special interest in the neurophysiology of motor control, movement disorders and gait.
MDS Awards

C. David Marsden Lecture
Wednesday, June 19 as part of 4103 Plenary Session IX: The Presidential Lecture
9:30 – 10:00

The C. David Marsden Lecture was created to recognize an outstanding scholar and inspiring neuroscientist in the field of Movement Disorders. The selected lecturer must show evidence of exceptional contributions which have resulted in better understanding of the neurobiology of Movement Disorders, and have translated into tangible improvements in clinical therapy and/or providing insight into normal brain function in the control of movement. The selected lecturer must demonstrate evidence of consistent dedication to Movement Disorder education and research.

Parkinson’s Disease – The windmills of your mind
C. David Marsden Lecturer – Peter Jenner, B.Pharm(Hons), PhD, DSc, FRPharmS, FBPharmacol.S, FKC

Peter Jenner received his degree in Pharmacy from Chelsea College, University of London in 1967, followed by his PhD in 1970, during which time he studied the absorption, metabolism and distribution of tobacco alkaloids. Subsequently he was appointed Lecturer in Biochemistry in the Department of Neurology, Institute of Psychiatry and then Senior Lecturer in 1978. During this time, his research became completely re-orientated to the central nervous system and in particular to Parkinson’s disease (PD) under the guidance of David Marsden. He worked on the drug treatment of PD using experimental models but also set up chronic models of neuroleptic treatment in relation their extrapyramidal side-effects, most notably tardive dyskinesia.

From 1985, Prof. Jenner was Reader in Neurochemical Pharmacology in the Department of Neurology, Institute of Psychiatry and King’s College Hospital Medical School. In 1989, he was appointed to the Chair of Pharmacology at King’s College London where he served as Professor of Pharmacology and Head of Department. From 1998-2004, he was Head of the Division of Pharmacology and Therapeutics at the newly created Guy’s, King’s and St. Thomas’ School of Biomedical Sciences at King’s College.

In 2008, he was made Emeritus Professor of Pharmacology at King’s and he continues to undertake research and to publish on PD. In 1987, he was awarded a DSc from the University of London. He was elected a Fellow of: the Royal Pharmaceutical Society of Great Britain (1994); the British Pharmacological Society (2005); King’s College London (2006); and the Royal Society of Medicine (2011). In 2005, he was made an Honorary Member of The Movement Disorder Society for his extraordinary contribution to the field of Movement Disorders.

Prof. Jenner has published more than 1,000 papers, review articles, book chapters and written or edited numerous monographs. He is an ISI Most Cited Author in Neuroscience, ranked in top 0.5% of all neuroscience authors in the world. He has served on numerous editorial boards and is currently Editor in Chief of Synapse and Series Editor for International Reviews in Neurobiology.

Junior Awards

Three Junior Award recipients have been selected based on their significant contribution to research in the field of Movement Disorders.

4103: Plenary Session IX: Presidential Lectureships
Wednesday, June 19
Chairs: Günther Deuschl, Matthew Stern
8:30-9:30

Alison Yarnall, MBBS
Newcastle upon Tyne, United Kingdom

Characterising mild cognitive impairment in incident Parkinson’s disease: The ICICLE-PD Study
Alison J Yarnall, MBBS¹, David P Breen, MBChB², Gordon W Duncan, MBChB³, Roger A Barker, PhD² and David J Burn, MA, MD, FRCPI. ¹Institute for Ageing and Health, Newcastle University, Newcastle, United Kingdom, NE4 5PL and ²Cambridge Centre for Brain Repair, Cambridge University, Cambridge, United Kingdom

Objective: To describe the frequency of mild cognitive impairment in a cohort of newly diagnosed incident PD cases (PD-MCI).

Background: Dementia is a frequent debilitating complication of PD, with a cumulative incidence approaching 80% in community studies. The concept of PD-MCI has received increasing attention over recent years, with certain subtypes being associated with increased risk of dementia. Recently new diagnostic criteria to better characterise PD-MCI and its subtypes have been proposed. We report baseline cohort MCI data for ICICLE-PD, a prospective study which aims to determine predictors for dementia in PD.
MDS Awards

Methods: Between June 2009 and December 2011, participants with newly diagnosed PD and age-matched controls were invited to participate in clinical and neuropsychological assessments in Newcastle and Cambridge, UK. PD-MCI was defined using new Movement Disorder Society criteria. Subjects were classified as level 1 MCI if they scored less than 26 on the Montreal Cognitive Assessment and as level 2 if they were impaired on two tests in one cognitive domain or one impaired test in two different domains at 1, 1.5 or 2 standard deviations (SD) below normative values.

Results: 219 incident PD cases and 99 controls were included. 41.5% met the criteria for level 1 PD-MCI, and level 2 criteria were met by 65.8% of PD participants at 1 SD below normative values, 42.5% at 1.5 SD and 22.4% at 2 SD. Among the five cognitive domains, memory impairment was the most common deficit in PD participants at 1.5 SD below normative values (15.1%), followed by visuospatial (13.2%), attention (12.3%) and then executive dysfunction (11.0%). When level 2 MCI criteria were applied at 1.5 SD, 12.8% were classified as non-amnestic single-domain MCI (naMCI-SD), 8.2% had amnestic multiple domain (aMCI-MD), 7.7% had aMCI-SD, and 5.0% were naMCI-MD.

Conclusions: In a large community-based representative cohort of incident PD, PD-MCI is common and may represent those at risk of developing dementia. Longitudinal assessment of these individuals will enable us to determine those measures predictive of PD dementia, allowing for future targeted early therapeutic interventions.

Mun Kyung Sunwoo, MD
Seoul, Korea

α-Synuclein pathology is related with postoperative delirium in patients undergoing gastrectomy

Mun Kyung Sunwoo, MD1, Jin Yong Hong, MD1, Hyun Jung Park, PhD2, Se Hoon Kim, MD3 and Phil Hyu Lee, MD, PhD1,2. 1Neurology, Yonsei University college of Medicine, Seoul, Korea; 2Severance biomedical science Institute, Seoul, Korea and 3Pathology, Yonsei University college of Medicine, Seoul, Korea

Objective: We investigated the α-synuclein pathology in patients who experienced postoperative delirium after gastrectomy for stomach cancer.

Background: Although growing evidence suggests that postoperative delirium is associated with an increased risk of mortality, institutionalization following discharge, and the development of dementia, little is known about pathophysiology of delirium. The clinical characteristics of postoperative delirium are quite similar to core features of α-synuclein-related cognitive disorders, such as dementia with Lewy bodies or Parkinson’s disease dementia. Based on the observation that postoperative delirium may represent a continuum of cognitive disorders, we hypothesized that postoperative delirium is indicative of underlying Lewy body pathology.

Methods: Patients with and without postoperative delirium were selected among patients undergoing total gastrectomy for primary gastric cancer from 2007 to 2011 (each n=16) at the university hospital. Immunohistochemical staining for α-synuclein of both normal and phosphorylated form was performed in the myenteric plexus. A logistic regression analysis was applied to identify independent predictors of postoperative delirium.

Results: No significant differences were observed for age, sex, operation time, or onset of delirium after total gastrectomy between patients with and without postoperative delirium. Patients with postoperative delirium had a higher frequency of intensive care unit (ICU) admissions (43.8 vs. 6.3%, p=0.037) and α-synuclein-positive pathologies of normal (56.3 vs. 12.5%, p=0.023) and phosphorylated form (43.8 vs. 6.3%, p=0.037) compared with those without postoperative delirium. A logistic regression analysis revealed that immunoreactivity for normal α-synuclein (odds ratio, 9.20) and intensive care unit admission (odds ratio, 11.97) were independently associated with postoperative delirium.

Conclusions: These results suggest that underlying α-synuclein pathologies in the stomach are associated with postoperative delirium, implying that postoperative delirium represents a preclinical stage of α-synuclein related with cognitive disorders.

Jee Young Lee, MD
Seoul, Korea

Dopaminergic neural changes and impulse control related behavior disorder in Parkinson’s disease

Jee Young Lee, MD1, Seong Ho Seo, MS2, Yu Kyeong Kim, MD, PhD3, Jae Sung Lee, PhD2 and Beom S Jeon, MD, PhD4. 1Neurology, Seoul National University-Seoul Metropolitan Government Boramae Medical Center, SEOUl, Korea; 2Nuclear Medicine, Seoul National University College of Medicine, SEOUL, Korea; 3Nuclear Medicine, Seoul National University-Seoul Metropolitan Government Boramae Medical Center, SEOUL, Korea and 4Neurology, Seoul National University Hospital, College of Medicine, Seoul National University, SEOUL, Korea

Objective: To evaluate dopaminergic neural changes in the extrasynaptic and striatal systems in relation to medication-related impulse control and related behavior disorders (ICB) in Parkinson’s disease (PD).

Methods: Method A total of 34 subjects (12 PD ICB, 12 PD non-ICB and 10 healthy controls) having no other co-morbid psychiatric disorders participated in this study. Each subject underwent dynamic N-(3-[18F]fluoropropyl)-2-carbomethoxy-3-(4-iodophenyl) nortropane ([18F]FP-CIT) positron emission tomography scans at the medication-off state. Binding potentials (BP) at the nucleus accumbens (NAC), amygdale (AMG), orbitofrontal cortex (OFC), ventromedial prefrontal...
MDS Awards

cortex (VMPFC), putamen (PUT) and caudate nucleus (CAU), and whole brain parametric maps of $[^{18}\text{F}]$FP-CIT binding were analyzed.

**Results:** The extrastriatal to striatal BP ratios were significantly higher in PD by about 3 times than that of the healthy controls. The BP ratios at the right VMPFC/PUT and AMG/PUT were significantly high in PD ICB than in non-ICB groups, and those at the right NAC/PUT and AMG/PUT, and both the VMPFC/PUTs and OFC/PUTs were correlated with the magnitude of ICB.

Parametric analysis of $[^{18}\text{F}]$FP-CIT bindings normalized to the putaminal bindings showed higher BPs in the VMPFC, OFCs, insular, and posterior cingulate cortex whereas lower BPs were observed in the ventral pallidum in PD ICB when compared to non-ICB groups.

**Conclusions:** A great gap in extrastriatal versus striatal dopaminergic fiber degenerations is an intrinsic pathological condition in PD. This study suggests that relative dense dopaminergic projections to areas regarding reward sensitive decision making and interoceptive urges for addictive behaviors and paucity in projections to areas processing convergent signals from diverse rewards may be a neuropathological substrate of ICB in PD.
MDS Awards

2013 Travel Grants

Pankaj Agarwal*
Mumbai, India

Belinda Crowe
London, United Kingdom

Hardeep Gambhir*
New Delhi, India

Umer Akbar
Gainesville, FL, USA

Rubens Cury
São Paulo, Brazil

Florin Gandor
Berlin, Germany

Leonardo Almeida
Hoover, AL, USA

Veronika Datieva
Moscow, Russia

Juan C. Giugni
Buenos Aires, Argentina

Jakkrit Amornvit
Bangkok, Thailand

Marie Y. Davis
Seattle, WA, USA

Aroma Agape Gopalai
Kuala Lumpur, Malaysia

Camila Aquino
Toronto, ON, Canada

Paul De Roos
Uppsala, Sweden

Anne Grünewald
Lübeck, Germany

David Arkadir
New York, NY, USA

Malgorzata Dec
Krakow, Poland

Jifeng Guo*
Changsha, China

Abolfazl Avan
Mashhad, Iran

Aman Deep
Phoenix, AZ, USA

Mohammad Habib*
Sobhanbag, Bangladesh

Amit Batla
Ghaziabad, India

Sabrina Diab
Mont-Royal, QC, Canada

Jessica Hedeman
Denver, CO, USA

Miriam Batule Dominguez
Santa Clara, Cuba

Aloysius Domingo
Lübeck, Germany

Angela Holmes
Bethesda, MD, USA

Cynthia Bedeschi Ferrari
São Paulo, Brazil

Kaylena Eghoetz Martens
Waterloo, ON, Canada

Alex Jahangirvand
Saskatoon, SK, Canada

Brian Berman
Denver, CO, USA

Sheila R. Eichenseer
Chicago, IL, USA

Ketan Ramakant Jhunjhunwala
Bangalore, India

Josie-Anne Bertrand
Montreal, QC, Canada

Vindhya Ekanayake
West Lafayette, IN, USA

Onanong Jitkritsadakul*
Bangkok, Thailand

Ketaki Bhalsing*
Bangalore, India

Roberto Erro
Napoli, Italy

Lorraine V. Kalia
Toronto, ON, Canada

Gabriella Boschetti
Curitiba, Brazil

Mariela Escande
Buenos Aires, Argentina

Suneil K. Kalia
Toronto, ON, Canada

Robin Cash
Toronto, ON, Canada

Alessandra Fanciulli
Innsbruck, Austria

Eleanna Kara
London, United Kingdom

Alvin Cenina
Manila, Philippines

Marina Farah
Curitiba, Brazil

Juyeon Kim*
Seoul, Korea

Florence Chang
New York, NY, USA

Jori Fleisher
Philadelphia, PA, USA

Okka Thea Kimmich
Dublin, Ireland

Corina Christie
Capital Federal, Argentina

Xiaoli Fu*
Guangzhou, China

Florian Krismer
Innsbruck, Austria

Florence Cormier
Paris, France

Brook Galna
Newcastle upon Tyne, United Kingdom

Neeraj Kumar*
Barabanki, India

Alexander Crizzle
Toronto, ON, Canada

Anna Gamaleya
Moscow, Russia

Pradeep Kumar
New Delhi, India
MDS Awards

Travis Larsh  
Kent, OH, USA

Tanya Lin  
Tucson, AZ, USA

Jose R. López-Castellanos  
San Salvador, El Salvador

Audrey Maillet  
Bron, France

Leslie C. Markun  
San Francisco, CA, USA

Hector Ruben Martinez Hernandez  
New York, NY, USA

Daniel Martinez-Ramierz  
Gainesville, FL, USA

Jessica McCamish  
Ventura, CA, USA

Raja Mehanna  
Cleveland Heights, OH, USA

Tiago A. Mestre  
Toronto, ON, Canada

Kulthida Methawasin  
Nakornnayok, Thailand

Kelly Mills  
San Francisco, CA, USA

Shahnaz Miriti  
Tehran, Iran

Jitendriya Mishra*  
Chandigarh, India

Hugo Morales  
Mexico City, Mexico

Nicolas Morin  
Quebec City, QC, Canada

Mariana M. Moscovich  
Parana, Brazil

Bogdan Neagu  
Thornhill, ON, Canada

Zhen Ni  
Toronto, ON, Canada

Srivadee Oravivattanakul  
Cleveland Heights, OH, USA

Rafael Palacio*  
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Pattamon Panyakaew*  
Bangkok, Thailand

Alexander Pentelyat  
Philadelphia, PA, USA

Neepa Patel  
Houston, TX, USA

Sitthi Petchrutchatachart  
Nonthaburi, Thailand

Luiza G. Piovesana  
Campinas, Brazil

Thomas Ragole  
Denver, CO, USA

Gail Ramiro*  
Quezon City, Philippines

Gesine Respondek  
Munich, Germany

Lucia Ricciardi  
Messina, Italy

Richard Salazar Montero  
Baltimore, MD, USA

Mohit Saxena  
New Delhi, India

Rebecca E. Schuele  
Tübingen, Germany

Eva Schulte  
Munich, Germany

Madeleine E. Sharp  
New York, NY, USA

Leah L. Shiong Shu  
Manila, Philippines

Fabienne S. Springer  
Innsbruck, Austria

Jirada Sringean*  
Nonthaburi, Thailand

Leena Subramanian Jr.  
Cardiff, United Kingdom

Christine R. Swanson  
Philadelphia, PA, USA

Ai Tan*  
Kuala Lumpur, Malaysia

Dawn Tan*  
Singapore

Sirinam Tazen  
New York, NY, USA

Jill Trumble  
Augusta, GA, USA

Bayasgalan Tserensodnom*  
Ulaanbaatar, Mongolia

Kaviraja Udupa  
Toronto, ON, Canada

Chizoba Umeh  
Elliott City, MD, USA

Mwiza Ushe  
St. Louis, MO, USA

Elena Vazey  
Charleston, SC, USA

V.G. Veena*  
New Delhi, India

Sarah Vercruysse  
Leuven, Belgium

Tuhin Virmani  
New York, NY, USA

Romina Vuono  
Cambridge, United Kingdom

Jeri Y. Williams  
Birmingham, AL, USA

Simone Wolff  
Lübeck, Germany

Gilad Yahalom  
Tel-Hashomer, Israel

Farkhod Yunusov  
Tashkent, Uzbekistan

Jinxia Zhou*  
Beijing, China

Irina Zhukova  
Tomsk, Russia

* 2013 Travel Grants sponsored by The Movement Disorder Society - Asian and Oceanian Section (MDS-AOS)
Congress Session Definitions

Blue Ribbon Highlights:
This session will provide a critical review of the best poster presentations by a panel of experts, highlighting the relevance, novelty and quality of both clinical and basic research presented by the delegates.

Controversies:
This Plenary Session is designed to involve all International Congress attendees. Content is prepared to stimulate interest and debate among a panel of experts. Views from several angles will be addressed as discussion of pre-selected “hot” topics will be open for debate among the panelists.

Corporate Therapeutic Symposia:
These company-based informational sessions will provide attendees with non-CME educational opportunities to learn the latest in therapeutics.

Guided Poster Tours:
Guided Poster Tours will give small groups of delegates an opportunity to hear discussion on a select group of abstracts in several sub-categories.

Parallel Sessions:
These concurrent sessions provide an in-depth report of the latest research findings, state-of-the-art treatment options, as well as a discussion of future strategies. Parallel sessions will have evidence-based components and incorporate the “hot” issues in Parkinson’s disease and other movement disorders.

Plenary Sessions:
These sessions provide a broad overview of the latest clinical and basic science research findings and state-of-the-art information.

Poster Sessions:
Poster sessions give each delegate an opportunity to view their colleagues’ posters on the most current research in the field of Movement Disorders. Authors will be present for 1.5 hours each day to explain their work and answer questions.

Skills Workshops:
These clinic-based training sessions provide an educational illustration of clinical techniques and treatment procedures through demonstrations utilizing patient videotapes and proper equipment to further develop practitioners’ skills and knowledge within the field of treatment of movement disorders.

Teaching Courses:
These educational programs provide up-to-date information focused on a single topic. The sessions highlight both the clinical and basic science of topics of relevance to Movement Disorder specialists. The sessions are unique in providing a syllabus that includes a review of the topic and the presentation slides. In addition, these programs provide ample time for questions and a discussion period at the conclusion of the presentations.

Therapeutic Plenary Sessions:
These sessions provide the latest information regarding the scientific and clinical evidence supporting treatment options for Parkinson’s disease and other movement disorders.

Video Sessions:
Designed to provide a broad overview of related movement disorders, the video sessions will focus on the phenomenology covering the many different kinds of movement disorders affecting the population today.

Special Meeting Theme
Clinicopathological Correlations in Movement Disorders – From Bench to Bedside

At each annual International Congress, the Congress Scientific Program Committee selects a theme that is highlighted throughout the meeting. This year’s theme, “Clinicopathological Correlations in Movement Disorders — From Bench to Bedside” will be showcased in two Plenary Sessions, eight Parallel Sessions, one Skills Workshop, one Teaching Course, and one Video Session. International experts will serve as faculty, and the meeting participants can elect to attend any or all of the sessions. These sessions are designated with a 🎬.
**Daily Schedule**

<table>
<thead>
<tr>
<th>Sunday, June 16, 2013</th>
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<tbody>
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Sunday, June 16, 2013

**1105 Therapeutic Plenary Session I**

Experimental therapeutics in hypo/hyperkinetic movement disorders  
8:00 – 10:00  
Location: Bayside Auditorium B  
Chairs: Thomas Foltynie  
London, United Kingdom  
Werner Poewe  
Innsbruck, Austria

8:00 What has been achieved in strategies to repair the brain in Parkinson’s disease?  
Stephane Paufi  
Creteil, France

8:40 What has been achieved in strategies to repair the brain in Huntington’s disease?  
Thomas Freeman  
Tampa, FL, USA

9:20 What are the future experimental therapies for movement disorders?  
Thomas Foltynie  
London, United Kingdom

At the conclusion of this session, participants should be better able to:  
1. Assess the current status of experimental therapeutics in Parkinson’s disease  
2. Assess the current status of experimental therapeutics in Huntington’s disease  
3. Understand the new experimental therapeutics being considered for movement disorders

Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Students/Residents/Trainees  
Supported by an unrestricted educational grant from Medtronic, Inc.

**1106 Therapeutic Plenary Session II**

Deep Brain Stimulation: New developments  
11:00 – 13:00  
Location: Bayside Auditorium B  
Chairs: Andres Lozano  
Toronto, ON, Canada  
Peter Silburn  
Spring Hill, Australia

11:00 Pedunculopontine (PPN) Deep Brain Stimulation (DBS): Does it really work?  
Elena Moro  
Grenoble, France

11:40 Subthalamic nucleus (STN) DBS: The new target for primary dystonia  
Jill Ostrem  
San Francisco, CA, USA

12:20 DBS for behavioral disorders  
Jean-Luc Houeto  
Grenoble, France

At the conclusion of this session, participants should be better able to:  
1. Evaluate the efficacy of PPN DBS for gait disorders  
2. Compare outcome from STN DBS for dystonia with that of standard targets  
3. Understand the role of DBS in the management of behavioral disorders

Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

**1107 Therapeutic Plenary Session III**

Management of the Parkinson’s disease journey  
14:30 – 16:30  
Location: Bayside Auditorium B  
Chairs: Christopher Goetz  
Chicago, IL, USA  
Heinz Reischmann  
Dresden, Germany

14:30 How close are we to individualized medicine for Parkinson’s disease?  
Beom Jeon  
Seoul, Korea

15:00 How to treat the anxious and depressed Parkinson’s disease patient  
Daniel Weintraub  
Ardmore, PA, USA

15:40 How to treat the Parkinson’s disease patient with cognitive impairment  
Jennifer Goldman  
Chicago, IL, USA

17:00 How to treat the Parkinson’s disease patient with psychosis  
Sergio Starkstein  
Fremantle, Australia

**1107 Therapeutic Plenary Session III, cont.**

15:10 What is the best decision-tree for the management of Parkinson’s disease?  
Carl Clarke  
Birmingham, United Kingdom

15:50 What to do when everything else has failed  
Janis Miyasaki  
Toronto, ON, Canada

At the conclusion of this session, participants should be better able to:  
1. Recognize how therapeutic decisions and other practices can be tailored to the individual Parkinson’s disease patient by the use of clinical and genetic information and discuss how the concept of patient-specific medical care applies to Parkinson’s disease  
2. Support informed treatment-decision options in the management of Parkinson’s disease  
3. Gain awareness of the benefits of palliative care and other therapeutic interventions for late stage Parkinson’s disease patients

Recommended Audience: Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

**1108 Therapeutic Plenary Session IV**

Therapeutic options for mood, cognition and psychosis in Parkinson’s disease patients: Selectivity without side-effects  
17:00 – 19:00  
Location: Bayside Auditorium B  
Chairs: John Dalrymple-Alford  
Christchurch, New Zealand  
Marcelo Merello  
Buenos Aires, Argentina

17:00 How to treat the anxious and depressed Parkinson’s disease patient  
Daniel Weintraub  
Ardmore, PA, USA

17:40 How to treat the Parkinson’s disease patient with cognitive impairment  
Jennifer Goldman  
Chicago, IL, USA

18:20 How to treat the Parkinson’s disease patient with psychosis  
Sergio Starkstein  
Fremantle, Australia

**AOS General Assembly**  
10:00 – 11:00  
Location: Bayside Terrace  
All delegates from Asia and Oceania are encouraged to attend.

**ES General Assembly**  
10:00 – 11:00  
Location: Bayside Gallery B  
All delegates from Europe and North Africa are encouraged to attend.

**PAS General Assembly**  
10:00 – 11:00  
Location: Bayside Gallery A  
All delegates from Central America, North America and South America are encouraged to attend.
Sunday, June 16, 2013

**1108** Therapeutic Plenary Session IV, cont.

At the conclusion of this session, participants should be better able to:

1. Understand the issues involved in selecting the best options for treating mood disorders in Parkinson’s disease
2. Review the drugs available for treating cognitive impairment in Parkinson’s disease
3. Evaluate treatments available for reducing psychosis in Parkinson’s disease without worsening motor symptoms

**Recommended Audience:** Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

**Supported by an unrestricted educational grant from UCB Pharma SA.**

**Welcome Ceremony**

19:30 – 21:30

Location: Bayside Auditorium B
Monday, June 17, 2013

2103 Plenary Session V
Clinicopathological correlations in Parkinson’s disease
8:00 – 10:00
Location: Bayside Auditorium B
Chairs: Stanley Fahn
New York, NY, USA
Andrew Lees
London, United Kingdom
8:00 Ante-mortem diagnosis of Parkinson’s disease
Andrew Lees
London, United Kingdom
8:40 The natural history of Parkinson’s disease
Marie Marquise Anne Hely
Bowral, Australia
9:20 Neuropathological correlations of motor and non-motor symptoms in Parkinson’s disease
Peter Kempster
Clayton, Australia

At the conclusion of this session, participants should be better able to:
1. Understand the main challenges in accurate ante-mortem diagnosis of Parkinson’s disease
2. Understand the natural history of Parkinson’s disease in the modern era
3. Understand the neuropathological correlates of motor and non-motor symptoms in Parkinson’s disease
Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

2104 Plenary Session VI
Emerging concepts in dystonia
10:30 – 12:30
Location: Bayside Auditorium B
Chairs: Alberto Albanese
Milan, Italy
James Lanc
Sydney, Australia
10:30 What is dystonia? What’s new in the pathophysiology of motor and non-motor aspects of dystonia?
Mark Hallett
Bethesda, MD, USA
11:10 Revising our classification of dystonia
Alberto Albanese
Milan, Italy
11:50 The unraveling of paroxysmal dyskinesia
Kailash Bhatia
London, United Kingdom
At the conclusion of this session, participants should be better able to:
1. Use the new definition of dystonia and understand the physiology underlying the phenomenology
2. Understand how to classify patients with dystonia
3. Gain awareness of how recent genetic discoveries have improved our clinical and pathophysiological understanding of the paroxysmal dyskinesias (kinesigenic, exertional and non-kinesigenic)
Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

Guided Poster Tours, cont.
GPT 3: Parkinson’s disease: Neuropharmacology
12:30 – 14:00
Location: Bayside 201-203
Leaders: Mark Guttmann
Markham, ON, Canada
Cristina Sampaio
Princeton, NJ, USA
GPT 4: Sleep disorders and RLS
12:30 – 14:00
Location: Bayside 204
Leader: K. Ray Chaudhuri
London, United Kingdom
Supported by an unrestricted educational grant from UCB Pharma SA.

Corporate Therapeutic Symposia
14:00 – 15:00
Please see pages 62-63 for more information.

2206 Parallel Session
Inclusions in Parkinson’s disease: The link between pathology and molecular biology
15:30 – 17:30
Location: Bayside Auditorium A
Chairs: Glenda Halliday
Randwick, Australia
Yoshikuni Mizuno
Tokyo, Japan
15:30 What do monogenic forms of Parkinson’s disease tell us about IPD?
Tamas Revesz
London, United Kingdom
16:10 GWAS and pathology: How are they connected?
Tatsushi Toda
Kobe, Japan
16:50 Is the Lewy body telling us anything useful about the pathogenesis of Parkinson’s disease?
Glenda Halliday
Randwick, Australia

Supported by an unrestricted educational grant from UCB Pharma SA.
Monday, June 17, 2013

2206 Parallel Session

At the conclusion of this session, participants should be better able to:
1. Understand the pathology found in Mendelian forms of Parkinson’s disease and its implications for the more common sporadic IPD
2. Understand how genetic risks for Parkinson’s disease in a population relate to the neuropathology and inclusions found in patients
3. Understand how the study of the Lewy body gives a profound insight into the pathogenesis of Parkinson’s disease
Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

2207 Parallel Session

The basal ganglia in health and disease
15:30 – 17:30
Location: Parkside Ballroom A
Chairs: José Obeso
Pamplona, Spain
John Rothwell
London, United Kingdom
15:30 New methods to shed light on the basal ganglia
J. Paul Bolam
Oxford, United Kingdom
16:10 Basal ganglia in health
John Rothwell
London, United Kingdom
16:50 Basal ganglia in disease
José Obeso
Pamplona, Spain
At the conclusion of this session, participants should be better able to:
1. Understand the concepts of novel methods now available for investigating basal ganglia function
2. Understand the normal functions of the basal ganglia
3. Discuss how basal ganglia dysfunction leads to hypo and hyper kinetic movement disorders
Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

2208 Parallel Session

Impulsivity, addiction and reward mechanisms in movement disorders
15:30 – 17:30
Location: Parkside Ballroom B
Chairs: Andrew Evans
Hawthorn, Australia
Antonio Strafella
Toronto, ON, Canada
15:30 The pathophysiology of impulsivity and addiction
Anthony Grace
Pittsburgh, PA, USA
16:10 In vivo models of impulsivity and addiction
Thilo Van Eimergen
Kiel, Germany
16:50 Clinical overview of ICDs, DDS and related disorders
Andrew Evans
Hawthorn, Australia
At the conclusion of this session, participants should be better able to:
1. Recognize the anatomical basis of impulsivity, addiction and parallels with other forms of addiction
2. Understand the animal models of impulsivity and addiction
3. Recognize the clinical features of impulse control disorders and DDS in movement disorders
Recommended Audience: Basic scientists, Clinical academicians, Students/Residents/Trainees

2209 Parallel Session

Racial and socioeconomic disparities in Parkinson’s disease diagnosis, treatment and clinical outcomes
15:30 – 17:30
Location: Bayside Gallery A
Chairs: Nicte Mejía
Somerville, MA, USA
Lisa Shulman
Baltimore, MD, USA
15:30 Racial disparities
Nabila Dahodwala
Philadelphia, PA, USA
16:10 Socioeconomic disparities
Nicte Mejía
Somerville, MA, USA
At the conclusion of this session, participants should be better able to:
1. Understand racial and socioeconomic differences in Parkinson’s disease diagnosis
2. Discuss the impact of race and socioeconomic factors on Parkinson’s disease treatment and clinical outcomes
3. Gain awareness of possible clinical interventions to address racial and socioeconomic disparities in Parkinson’s disease diagnosis, treatment and clinical outcomes
Recommended Audience: Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

2210 Parallel Session

Movement disorders associated with anti-bodies
15:30 – 17:30
Location: Bayside 204
Chairs: Francisco Cardoso
Belo Horizonte, Brazil
Russell Dale
Sydney, Australia
15:30 Are movement disorders associated with anti-basal ganglia antibodies?
Russell Dale
Sydney, Australia
16:10 Movement disorders associated with anti-NMDAR antibodies
Thomas Kimber
Adelaide, Australia
16:50 Movement disorders associated with novel antibodies
Sarosh Irani
Oxford, United Kingdom
At the conclusion of this session, participants should be better able to:
1. Recognize the movement disorders associated with anti-basal ganglia, anti-NMDAR and glycine-receptor antibodies
2. Discuss the mechanisms underlying movement disorders associated to auto-antibodies
3. Propose management strategies for movement disorders associated to auto-antibodies
Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees
Monday, June 17, 2013

2211 Parallel Session
Invasive therapies in Parkinson’s disease: Optimization and complications
15:30 – 17:30
Location: Bayside 201-203
Chairs: Angelo Antonini
Venice, Italy
Per Odin
Bremerhaven, Germany

15:30 Apomorphine therapy
Tove Henriksen
Copenhagen, Denmark

16:10 Levodopa infusion therapy
Angelo Antonini
Venice, Italy

16:50 Deep Brain Stimulation
Vincent Mok
Shatin, China

At the conclusion of this session, participants should be better able to:
1. Describe apomorphine infusion therapy with focus on critical factors for reaching optimal effect and management of the most common complications and side effects
2. Review levodopa infusion therapy with focus on critical factors for reaching optimal effect and management of the most common complications and side effects
3. Evaluate Deep Brain Stimulation with focus on critical factors for reaching optimal effect and management of the most common complications and side effects

Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Students/Residents/Trainees

2308 Teaching Course
Movement disorders and epilepsy
15:30 – 17:30
Location: Bayside Gallery B
Chairs: Sam Berkovic
Heidelberg West, Australia
Carlo Colosimo
Rome, Italy

15:30 The relationship between myoclonus and epilepsy: New insights from neurophysiological and genetic studies in myoclonus dystonia and familial cortical tremor
Aki Ikeda
Kyoto, Japan

16:10 The relationship between paroxysmal dyskinesia and epilepsy: Lessons from recent genetic advances
Ingrid Scheffer
Melbourne, Australia

16:50 Update on the diagnosis and genetics of the progressive myoclonic epilepsies
Sam Berkovic
Heidelberg West, Australia

At the conclusion of this session, participants should be better able to:
1. Understand the relationship between myoclonus and epilepsy
2. Recognize the clinical and genetic overlap between paroxysmal movement disorders (especially the paroxysmal dyskinesias) and epilepsy
3. Learn an approach to the differential diagnosis and investigation of a patient with the syndrome of progressive myoclonic epilepsy and/or progressive myoclonic ataxia

Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

2309 Teaching Course
Biomarkers for early Parkinson’s disease
15:30 – 17:30
Location: Parkside Ballroom A
Chairs: Charles Adler
Scottsdale, AZ, USA
Daniela Berg
Tübingen, Germany

At the conclusion of this session, participants should be better able to:
1. Provide an overview of recent and future developments in disease genetics, and opportunities associated with these methods
2. Enable critical review of publications that use next generation genetic methods
3. Discuss the likely long term implication of these methods for clinical diagnosis and treatment

Recommended Audience: Basic scientists, Clinical academicians, Practitioners

2403 Skills Workshop
Next generation genetics for clinicians
18:00 – 19:30
Location: Parkside Ballroom A

In this interactive session, participants will be better able to interpret the results obtained with new generation genetic methods and understand recent and future developments in disease genetics.

Thomas Gasser
Tübingen, Germany

Nicholas Wood
London, United Kingdom

At the conclusion of this session, participants should be better able to:
1. Provide an overview of recent and future developments in disease genetics, and opportunities associated with these methods
2. Enable critical review of publications that use next generation genetic methods
3. Discuss the likely long term implication of these methods for clinical diagnosis and treatment

Recommended Audience: Basic scientists, Clinical academicians, Practitioners
Monday, June 17, 2013

**2404 Skills Workshop**

**The use of rating scales for hyperkinetic disorders in clinical practice**

*18:00 – 19:30*

**Location:** Bayside Gallery A

*In this interactive session, participants will be better able to recognize the attributes and performance of the most relevant rating scales for evaluation of such disorders as dystonia, chorea, and other hyperkinetic disorders in clinical practice. Evidence favoring the preferential selection of measures for different applications will be discussed.*

Carlo Colosimo
Rome, Italy

Cynthia Comella
Chicago, IL, USA

**Recommended Audience:** Clinical academicians, Practitioners, Students/Residents/Trainees

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**2405 Skills Workshop**

**Eye movements and movement disorders**

*18:00 – 19:30*

**Location:** Bayside Gallery B

*In this interactive session, participants will be better able to recognize the most frequent eye movement disorders and learn how to examine them.*

Tim Anderson
Christchurch, New Zealand

R. John Leigh
Cleveland, OH, USA

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**2406 Skills Workshop**

**Movement disorders in mitochondrial diseases: A practical approach**

*18:00 – 19:30*

**Location:** Parkside Ballroom B

*In this interactive session, participants will be better able to appreciate the spectrum of movement disorders that can occur in patients with a mitochondrial disease, and to discuss the practical diagnostic and therapeutic management of such patients.*

Anthony Schapira
London, United Kingdom

Carolyn Sue
Sydney, Australia

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**2407 Skills Workshop**

**How to develop and run a brain bank**

*18:00 – 19:30*

**Location:** Bayside Terrace

*In this interactive session, the faculty will review the objectives and relevancy of brain banks in the field of movement disorders. Faculty will also address questions related with the registry of clinical data, recruitment of participants and the technical details of processing brains donated for research and the ethical principles safeguarding the running of a brain bank.*

Dennis Dickson
Jacksonville, FL, USA

Jillian Kril
Sydney, Australia

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**2508 Video Session**

**Unusual presentation of common movement disorders**

*18:00 – 19:30*

**Location:** Bayside Auditorium A

*In this interactive session, participants will be better able to recognize the spectrum of unusual presentations of common movement disorders, and to discuss the practical diagnostic work-up in such patients.*

Alberto Espay
Cincinnati, OH, USA

Evzen Ruzicka
Prague, Czech Republic

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Monday, June 17, 2013

2508 Video Session

2. Appreciate that unusual presentations of common movement disorders are much more common that typical presentations of unusual movement disorders
3. Discuss the practical diagnostic work-up in patients with an unusual presentation of a common movement disorder
Recommended Audience: Clinical academicians, Practitioners, Students/Residents/Trainees

2509 Video Session

Metabolic disorders: A frequently neglected or unrecognized cause of movement disorders
18:00 – 19:30
Location: Bayside 204

In this interactive session, participants will be better able to identify and recognize movement disorders caused by neurometabolic diseases in both children and adults, and the contributions of neuroimaging to their diagnosis.

Hyder Jinnah
Atlanta, GA, USA
Manju Kurian
London, United Kingdom

2509 Video Session, cont.

At the conclusion of this session, participants should be better able to:
1. Identify characteristic movement disorders and syndromes that indicate underlying neurometabolic diseases in adulthood
2. Recognize neurometabolic diseases that cause movement disorders in childhood
3. Interpret and describe typical imaging findings that point to a neurometabolic cause of movement disorders
Recommended Audience: Basic scientists, Clinical academicians, Practitioners

2510 Video Session

Movement disorders in Asia-Oceania
18:00 – 19:30
Location: Bayside 201-203

In this interactive session, participants will be better able to understand spectrum, presentation, phenomenology, and management of movement disorders that occur more commonly in the Asia-Oceania region.

Lillian Lee
Quezon City, Philippines
Hidehiro Mizusawa
Tokyo, Japan

2510 Video Session, cont.

At the conclusion of this session, participants should be better able to:
1. Describe the spectrum of genetic and non-genetic causes of movement disorders that commonly occur in the Asia and Oceania region
2. Recognize the clinical presentation and phenomenology of movement disorders that are common in the region
3. Discuss the management of these movement disorders
Recommended Audience: Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees
Tuesday, June 18, 2013

3103 Plenary Session VII

The pathophysiology of hyperkinetic movement disorders
8:00 – 10:00
Location: Bayside Auditorium B
Chairs: David Brooks
London, United Kingdom
Ryuji Kaji
Tokushima City, Japan

8:00 Lessons learned from neurophysiology
Robert Chen
Toronto, ON, Canada

8:40 Insights from functional imaging
David Brooks
London, United Kingdom

9:20 What has neuropathology taught us about hyperkinetic movement disorders?
Jean Paul Vonsattel
New York, NY, USA

At the conclusion of this session, participants should be better able to:
1. Describe how neurophysiological studies improve our understanding of hyperkinetic movement disorders
2. Understand the anatomical and functional networks underlying hyperkinetic movement disorders
3. Understand the neuropathological correlations of hyperkinetic disorders

Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

Science and Technology Pavilion
8:30 – 17:00
Please see page 62 for more information.

MDS Business Meeting
10:00 – 11:00
Location: Bayside Gallery B
Open to all delegates

3104 Plenary Session VIII

Clinical trials in movement disorders: Where do we stand?
11:00 – 12:30
Location: Bayside Auditorium B

3104 Plenary Session VIII, cont.

Chairs: Susan Fox
Toronto, ON, Canada
Anthony Schapira
London, United Kingdom

11:00 Therapeutics update on Parkinson’s disease
Susan Fox
Toronto, ON, Canada

11:30 Therapeutics update on non-Parkinson’s disease hypokinetic
Günter Höglinger
Munich, Germany

12:00 Therapeutics update on hyperkinetic disorders and ataxia
Ludger Schölß
Tübingen, Germany

At the conclusion of this session, participants should be better able to:
1. Review recent advances in the pharmacological therapy of Parkinson’s disease
2. Provide an update on the progress of therapeutic interventions for hypokinetic disorders other than Parkinson’s disease
3. Give an overview of new therapeutic options in ataxia and Huntington’s disease

Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

Supported by an unrestricted educational grant from Merck & Co., Inc.

Poster Session 2
12:30 – 14:00
Location: Exhibition Hall 5
Poster viewing: 9:00 – 18:00
Abstract numbers: 331 - 665

Abstract Topics:
Parkinson’s disease: Behavioral disorders
Parkinson’s disease: Clinical Trials
Parkinson’s disease: Cognition
Parkinson’s disease: Neuropharmacology
Parkinson’s disease: Sleep disorders
Restless legs syndrome
Tics/Stereotypies

Guided Poster Tours

GPT 5: Dystonia
12:30 – 14:00
Location: Bayside Gallery A
Leaders: Alberto Albanese
Milan, Italy
Susane Schneider
Keil, Germany

GPT 6: Parkinsonisms (parkinson plus and secondary)
12:30 – 14:00
Location: Bayside Gallery B
Leaders: Tove Henriksen
Copenhagen, Denmark
Günter Höglinger
Munich, Germany

GPT 7: Rating scales and assessment tools
12:30 – 14:00
Location: Bayside 201–203
Leaders: Christopher Goetz
Chicago, IL, USA
Cristina Sampaio
Princton, NJ, USA

GPT 8: Surgical therapy: Parkinson’s disease
12:30 – 14:00
Location: Bayside 204
Leaders: Paul Krack
Granoble, France
Jens Volkman
Wurzburg, Germany

Corporate Therapeutic Symposia
14:00 – 15:00
Please see pages 62-63 for more information.

3207 Parallel Session

Corticobasal syndrome: Clinical, neuroanatomical and genetic perspectives
15:30 – 17:30
Location: Bayside 201–203
Chairs: Anthony Lang
Toronto, ON, Canada
Irene Litvan
La Jolla, CA, USA
Tuesday, June 18, 2013

**3207 Parallel Session**

15:30 CBS features that predict the underlying pathologies
Helen Ling
London, United Kingdom

16:10 Accuracy in diagnosing CBD: Newly proposed clinical diagnostic criteria
Melissa Armstrong
Baltimore, MD, USA

16:50 Genotype/Phenotype in CBS
Adam Boxer
San Francisco, CA, USA

At the conclusion of this session, participants should be better able to:
1. Identify CBS features that may best predict underlying cortical pathology
2. Learn newly developed clinical diagnostic criteria for CBD
3. Understand the role of genetics in the development of the various pathologies that present with a CBS

Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

**3208 Parallel Session**

The mysteries of dopamine in health and disease

15:30 – 17:30

Location: Bayside 204

Chairs: Yves Agid
Paris, France
D. James Surmeier
Chicago, IL, USA

15:30 How does dopamine control motor function work in the normal brain?
D. James Surmeier
Chicago, IL, USA

16:10 Dopamine deficiency at different ages: From dystonia to parkinsonism: Why?
Joel Perlmutter
St. Louis, MO, USA

16:50 Dopamine beyond movement
Yves Agid
Paris, France

At the conclusion of this session, participants should be better able to:
1. Understand the role of dopamine in motor control
2. Describe the extent of dopamine pathology in untreated and treated Parkinson’s disease

**3209 Parallel Session**

Challenging the experts: Movement disorders clinicopathological correlations

15:30 – 17:30

Location: Bayside Auditorium B

In this session, four experienced movement disorders specialists will take the audience through a clinical case with video documentation in order to highlight how they interpret the history and signs in patients with complex movement disorders.

Following the clinical discussion, expert neuropathologists will demonstrate the key pathological findings, both the diagnostic features and those features of particular pertinence to the clinical phenomenology of the case. This session will highlight the importance of clinicopathological correlation in helping to understand the relationships between brain structure and function, and pathological change in the brain and disease.

Chairs: Victor Fung
Westmead, Australia
Glenda Halliday
Randwick, Australia

MDS Panel of Experts:
Francisco Cardoso
Belo Horizonte, Brazil
Timothy Lynch
Dublin, Ireland
Barry Snow
Auckland, New Zealand
Eduardo Tolosa
Barcelona, Spain

Neuropathologists:
Dennis Dickson
Jacksonville, FL, USA
Janice Holton
London, United Kingdom
Tamas Revesz
London, United Kingdom
Jean Paul Vonsattel
New York, NY, USA

At the conclusion of this session, participants should be better able to:
1. Understand the relationship between movement disorder symptoms and signs and the location of cerebral pathology
2. Enhance knowledge of clinicopathological correlations in unusual movement disorder syndromes
3. Learn how experts use clinical history and signs to formulate their diagnosis in complex movement disorder cases

Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

**3210 Parallel Session**

What’s new in Huntington’s disease?

15:30 – 17:30

Location: Parkside Ballroom A

Chairs: Elizabeth McCusker
Westmead, Australia
Cristina Sampaio
Princeton, NJ, USA

15:30 Biomarkers of prodromal Huntington’s disease
Ralf Reilmann
Münster, Germany

16:10 From pathophysiology to new treatment strategies: Insights from the laboratory and animal models
Michael Levine
Los Angeles, CA, USA

16:50 Update on symptomatic and disease modifying treatments
Cristina Sampaio
Princeton, NJ, USA

At the conclusion of this session, participants should be better able to:
1. Discuss the pathology and bio-markers of pre-manifest Huntington’s disease gene carriers
2. Assess the contribution of preclinical research to understand pathophysiology and to study new treatment strategies in Huntington’s disease
Daily Schedule
Tuesday, June 18, 2013

3210 Parallel Session (TICKET), cont.
3. Describe current achievements in and future options for the treatment of Huntington’s disease
Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Students/Residents/Trainees
Supported by an unrestricted educational grant from Lundbeck U.S.

3211 Parallel Session (TICKET)
Thinking about cognitive dysfunction in Parkinson’s disease: How do we define it and can we model it?
15:30 – 17:30
Location: Parkside Ballroom B
Chairs: Paolo Barone
Naples, Italy
Robert Rodnitzky
Iowa City, IA, USA
15:30 Neurotransmitters and cognitive impairment in Parkinson’s disease
Benedicte Ballanger
Bron, France
16:10 Animal models of cognitive dysfunction in Parkinson’s disease
Jay Schneider
Philadelphia, PA, USA
16:50 Defining mild cognitive impairment in Parkinson’s disease
Paolo Barone
Naples, Italy
At the conclusion of this session, participants should be better able to:
1. Understand definition of cognitive dysfunction in Parkinson’s disease
2. Differentiate between different subtypes of cognitive dysfunction in Parkinson’s disease
3. Understand how to detect Parkinson’s disease cognitive dysfunction clinically
Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

3212 Parallel Session (TICKET)
Update on disturbances of sleep-wakefulness and movement disorders
15:30 – 17:30
Location: Bayside Gallery A
Chairs: Simon Lewis
Sydney, Australia
Wolfgang Oertel
Marburg, Germany
15:30 How to approach and manage patients with periodic or rhythmic movements during rest, drowsiness and sleep
Birgit Frauscher
Innsbruck, Austria
16:10 From dream-enacting behavior to synuclein in the brain: REM sleep behavior disorder as an early feature of synucleinopathies
Simon Lewis
Sydney, Australia
16:50 Why is my Parkinson’s disease patient sleepy? And how shall I treat him?
Wolfgang Oertel
Marburg, Germany
At the conclusion of this session, participants should be better able to:
1. Identify and manage rhythmic or periodic movement disorders before or during sleep including restless legs syndrome, periodic movements of sleep and others such as hypnic jerks, head banging, body rocking and stereotypes
2. Describe the clinical, polysomnographic and pathophysiological features of RBD pointing to its association as an early feature of a neurodegenerative disease and particularly an evolving synucleinopathy
3. Explain the mechanisms, the diagnostic workup and management of daytime sleepiness in Parkinson’s disease
Recommended Audience: Clinical academicians, Practitioners, Students/Residents/Trainees

3213 Parallel Session (TICKET)
Nursing and allied health-care for Parkinson’s disease: Practice-based evidence or evidence-based practice?
15:30 – 17:30
Location: Bayside 103
Chairs: Colleen Canning
Sydney, Australia
Lindy Clemson
Lidcombe, Australia
15:30 Outcomes of physiotherapy for Parkinson’s disease: New evidence from large randomized clinical trials
Colleen Canning
Sydney, Australia
16:10 Nursing interventions for Parkinson’s disease: More than practice-based evidence?
Julie Carter
Portland, OR, USA
16:50 Other allied health interventions in Parkinson’s disease
Ana Aragon
Bath, United Kingdom
At the conclusion of this session, participants should be better able to:
1. Have a state-of-the-art view of the latest scientific developments in allied healthcare for Parkinson’s disease, including new evidence from large RCT’s, evidence-based practice guidelines and other important progress in the field
2. Appreciate the broad spectrum of treatment approaches offered by allied health professionals and Parkinson nurse specialists, and understand the current level of scientific evidence that supports these various interventions
3. Understand the range of impairments, disabilities and activity limitations in Parkinson’s disease
Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees
Tuesday, June 18, 2013

3314 Teaching Course
Movement disorders emergencies
15:30 – 17:30
Location: Bayside Terrace
Chairs: K. Ray Chaudhuri
London, United Kingdom
Louis Tan
Singapore
15:30 Emergencies in hypokinetic disorders
Renato Puppi Munhoz
Curitiba, Brazil
16:10 Emergencies in hyperkinetic disorders
Steven Frucht
New York, NY, USA
16:50 Emergencies in surgically treated movement disorders patients
Rianne Esselink
Nijmegen, Netherlands

At the conclusion of this session, participants should be better able to:
1. Recognize and define management strategies for neuroleptic malignant syndrome, parkinsonism hyperpyrexia syndrome, and serotonin syndrome
2. Recognize and define management strategies for status dystonicus, acute dystonic reaction, and selected causes of acute chorea, myoclonus, and lics
3. Recognize and define management strategies for emergent complications in DBS-treated patients with movement disorders
Recommended Audience: Clinical academicians, Practitioners, Students/Residents/Trainees

3315 Teaching Course
16:10 DBS for dystonia, tremor and other hyperkinetic disorders
Michele Tagliati
Los Angeles, CA, USA
16:50 Mechanisms of DBS and recent technical developments
Chung-Chin Kuo
Taipei, Taiwan

At the conclusion of this session, participants should be better able to:
1. Recognize the indications, motor and non-motor benefits, potential side effects and long-term outcome of DBS for Parkinson’s disease
2. Understand the indications, benefits, possible side effects and long-term outcome of DBS for dystonia, essential tremor and other hyperkinetic disorders
3. Understand the recent advances in the mechanisms of action of DBS and in technical developments such as close-loop stimulation
Recommended Audience: Clinical academicians, Practitioners, Students/Residents/Trainees

3315 Teaching Course, cont.
18:00 – 19:30
Location: Parkside Ballroom B

In this interactive session, participants will learn how to identify different alterations of parkinsonian gait and understand the relationship between freezing of gait, cognition and anxiety. In addition, participants will be instructed on the clinical utility of instrumental analysis and its current role in clinical practice.
John Nutt
Portland, OR, USA
Walter Maetzler
Tübingen, Germany

At the conclusion of this session, participants should be better able to:
1. Identify parkinsonian gait disturbance characteristics
2. Describe clinical utility of instrumental gait and posture analysis
3. Interpret pathophysiological and compensatory mechanisms of parkinsonian gait evidenced by instrumental analysis
Recommended Audience: Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

3404 Skills Workshop
Speech and swallowing in movement disorders
18:00 – 19:30
Location: Bayside 201-203

In this interactive session, participants will learn the fundamentals of normal speech and swallowing, in order to then understand how to diagnose and manage speech and swallowing disturbances in hypokinetic and hyperkinetic movement disorders.
Hanneke Kalf
Nijmegen, Netherlands
Debbie Phylain
East Melbourne, Australia

At the conclusion of this session, participants should be better able to:
1. Understand basic principles of the physiology of speech and swallowing
2. Diagnose and manage speech disturbances in patients with movement disorders
3. Diagnose and manage swallowing disturbances in movement disorders
Recommended Audience: Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

3405 Skills Workshop
Normal and abnormal movements in children: How to approach a pediatric patient
18:00 – 19:30
Location: Bayside Terrace

In this interactive session, participants will be better able to examine and recognize normal motor development in children and identify and classify abnormal movements.
Jean-Pierre Lin
London, United Kingdom
Terence Sanger
Los Angeles, CA, USA

At the conclusion of this session, participants should be better able to:
1. Recognize normal or benign abnormal movements in infants and children
2. Recognize the most frequent movement disorders in children and work out towards etiology
3. Recognize developmental disorders
Recommended Audience: Clinical academicians, Practitioners, Students/Residents/Trainees
**Tuesday, June 18, 2013**

**3406 Skills Workshop**

**How to assess cognitive function in parkinsonian syndromes**

**18:00 – 19:30**

Location: Bayside 204

In this interactive session, the faculty will review the clinical spectrum of cognitive symptoms associated with the different parkinsonian syndromes. The faculty will also describe brief and simple cognitive tests and more formal tests for conducting a cognitive assessment. Cognitive assessments will be appraised based on their applicability for the screening for cognitive impairment, differential diagnosis, rating of severity or monitoring disease progression.

John Dalrymple-Alford
Christchurch, New Zealand

Elsdon Storey
Melbourne, Australia

At the conclusion of this session, participants should be better able to:
1. Review the spectrum of cognitive symptoms in parkinsonian syndromes
2. Discuss the clinicopathological correlates of cognitive dysfunction
3. Appraise the cognitive assessments in parkinsonian syndromes

Recommended Audience: Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

**3407 Skills Workshop**

**Palliative care and end of life issues in parkinsonism**

**18:00 – 19:30**

Location: Bayside Gallery A

In this interactive session, participants will be better able to understand the prevailing symptoms in advanced parkinsonism that require palliative care approaches and discuss modern concepts that involve a whole-person approach, focusing on quality of life.

Stefan Lorenzl
Munich, Germany

David Oliver
Kent, United Kingdom

At the conclusion of this session, participants should be better able to:
1. Understand the prevailing symptoms in advanced parkinsonism that require palliative care approaches
2. Discuss end of life issues from patients’ and caregivers’ perspective
3. Discuss modern concepts of palliative care in parkinsonism

Recommended Audience: Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

**3408 Skills Workshop**

**Physical and social disability in Parkinson’s disease: From markers to self-management strategies**

**18:00 – 19:30**

Location: Bayside 103

In this interactive session, participants will be able to better recognize the onset and progression of disability across the stages of Parkinson’s disease, its impact on quality of life (physical and social) and will be better equipped with the knowledge of self management strategies to empower the patients to live the normal life with chronic disorder.

Terry Ellis
Boston, MA, USA

Lisa Shulman
Baltimore, MD, USA

At the conclusion of this session, participants should be better able to:
1. List the clinical “red flags” marking the onset and progression of disability across the various stages of disease
2. Describe the spectrum of physical and social disability in the daily lives of persons with Parkinson’s disease
3. Discuss self-management strategies that can assist Parkinson’s patients in reducing disability

Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

**3509 Video Session**

**Movement Disorders: Surprises in localization or pathology**

**18:00 – 19:30**

Location: Bayside Gallery B

In this interactive session, the faculty will review videos and possible imaging/pathology of movement disorders that have been caused by unusual lesions or unexpected anatomical sites. The session will discuss lessons learned from these cases in understanding basal ganglia pathophysiology.

Asha Kishore
Trivandrum, India

Susanne Schneider
Kiel, Germany

At the conclusion of this session, participants should be better able to:
1. Review unusual causes of common movement disorders
2. Understand how lesions in the basal ganglia give rise to particular movement disorders
3. Develop a logical method to help evaluate unusual movement disorders

Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Students/Residents/Trainees

**3510 Video Session**

**Jerky, Shaky, What is it?**

**18:00 – 19:30**

Location: Parkside Ballroom A

In this interactive session, participants will be better able to distinguish between myoclonus, tremors, chorea and psychogenic movements.

Nin Bajaj
Nottingham, United Kingdom

Marie Vidalhiet
Paris, France

At the conclusion of this session, participants should be better able to:
1. Develop examination techniques to analyze jerky and shaky movements
2. Recognize tremor, myoclonus, cortical tremor, chorea, tics and psychogenic movements
3. Use appropriate investigation to aid diagnosis

Recommended Audience: Clinical academicians, Practitioners, Students/Residents/Trainees
Tuesday, June 18, 2013

**3511 Video Session**

**Ten golden tips on how to better diagnose unusual movement disorders**

**18:00 – 19:30**

**Location:** Bayside Auditorium A

_In this interactive session, participants will be better able to better understand the diagnostic work-up of patients presenting with an unusual movement disorder, and recognize a series of “tips and tricks” used by experts in movement disorders in their own clinical work-up of patients with unusual movement disorders._

Daniel Healy  
Dublin, Ireland  
Marina De Koning-Tijssen  
Groningen, Netherlands

At the conclusion of this session, participants should be better able to:

1. Understand that the diagnostic work-up of any unusual movement disorders starts with a proper clinical description of the phenotype, including the dominant movement disorder, any additional movement disorders, and the accompanying signs
2. Appreciate the broad spectrum and complexity of unusual movement disorders
3. Recognize several “tips and tricks” used by experts in movement disorders in their own clinical work-up of patients with unusual movement disorders

**Recommended Audience:** Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees
### Wednesday, June 19, 2013

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
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| 4103 Plenary Session IX | Presidential Lectures  
8:00 – 10:00  
Location: Bayside Auditorium B  
Chairs: Günther Deuschl  
Kiel, Germany  
Matthew Stern  
Philadelphia, PA, USA |
| 4104 Plenary Session X, cont. | The biology of classic prion disease  
10:30  
Colin Masters  
Parkville, Australia  
Is Parkinson’s disease caused by a prion mechanism?  
11:00  
Patrik Brundin  
Lund, Sweden  
Ideas for novel therapies targeting the prion-like mechanism: Problems and possibilities  
11:30  
C. Warren Olanow  
Chicago, IL, USA |
| 4104 Plenary Session X, cont. | Guided Poster Tours |
| 4104 Plenary Session X, cont. | Poster Session 3  
12:00 – 13:30  
Location: Exhibition Hall 5  
Poster viewing: 9:00 – 18:00  
Abstract numbers: 666 – 991  
**Abstract Topics:**  
Ataxia  
Choreas (non-Huntington’s disease)  
Clinical Electrophysiology  
Huntington’s disease  
Parkinsonism (secondary and parkinsonism-plus)  
Parkinson’s disease: Phenomenology  
Pediatric movement disorders  
Tremor  
Wilson’s disease, storage and metabolic movement disorders |
| 4104 Plenary Session X, cont. | GPT 10: Genetics  
12:00 – 13:30  
Location: Bayside Gallery B  
Leaders: Daniel Healy  
Dublin, Ireland  
Christine Klein  
Luebeck, Germany |
| 4104 Plenary Session X, cont. | GPT 11: Lewy body dementia and other dementias in movement disorders  
12:00 – 13:30  
Location: Bayside 201-203  
Leaders: John Dalrymple-Alford  
Christchurch, New Zealand  
Glenda Halliday  
Randwick, Australia |
| 4104 Plenary Session X, cont. | GPT 12: Surgical therapy of movement disorders other than Parkinson’s disease  
12:00 – 13:30  
Location: Bayside 204  
Leaders: Joachim Krauss  
Hanover, Germany  
Elena Moro  
Grenoble, France |
| 4104 Plenary Session X, cont. | Corporate Therapeutic Symposia  
13:30 – 14:30  
Please see pages 62-63 for more information. |
| 4104 Plenary Session X, cont. | GPT 9: Parkinson’s disease: Cognition  
12:00 – 13:30  
Location: Bayside Gallery A  
Leaders: Murat Emre  
Istanbul, Turkey  
Jennifer Goldman  
Chicago, IL, USA |
| 4104 Plenary Session X, cont. | Guided Poster Tours |
| 4104 Plenary Session X, cont. | Multiple system atrophy:  
A wolf in sheep’s clothing  
15:00 – 17:00  
Location: Bayside Auditorium A  
Leaders: Richard Boyle  
Brisbane, Australia  
Gregor Wenning  
Innsbruck, Austria |
| 4104 Plenary Session X, cont. | Challenges in the ante-mortem diagnosis of multiple system atrophy  
15:00  
Tetsutaro Ozawa  
Niigata, Japan |
| 4104 Plenary Session X, cont. | Update on the pathological correlates of autonomic features  
15:40  
Eduardo Benarroch  
Rochester, MN, USA |
Wednesday, June 19, 2013

4208 Parallel Session
16:20 Molecular pathogenesis and animal models
Gregor Wenning
Innsbruck, Austria

At the conclusion of this session, participants should be better able to:
1. Understand the main challenges in accurate ante-mortem diagnosis of MSA
2. Recognize the spectrum of non-motor symptoms in MSA
3. Understand the latest developments in the pathogenesis and therapeutic frontiers in MSA

Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

4209 Parallel Session
What's new in essential and non-essential tremor?
15:00 – 17:00

Location: Parkside Ballroom A

Chairs: Günther Deuschl
Kiel, Germany
Eng-King Tan
Singapore

15:00 The natural history of essential tremor: Lessons from clinical and physiological studies
Jan Raethjen
Kiel, Germany

15:40 The pathology of essential tremor
Holly Shill
Sun City, AZ, USA

16:20 Pathophysiological basis of other tremor
Rick Helmich
Nijmegen, Netherlands

At the conclusion of this session, participants should be better able to:
1. Describe the current clinical definitions, its problems as well as the evolving phenotype in the course of the disease and with increasing age and its pathophysiological correlates
2. Discuss the pros and cons for neurodegenerative processes in essential tremor; possible correlations with the clinical spectrum and alternative explanations for the pathological changes observed. The latest in genetics will also be covered
3. Understand tremor circuitry by analyzing how a lesion can either induce or relieve a tremor

Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

4210 Parallel Session
New treatment and pathophysiological concepts in RLS
15:00 – 17:00

Location: Bayside 103

Chairs: Birgit Högl
Innsbruck, Austria
Juliane Winkelmann
Munich, Germany

15:00 New developments in RLS genetic and pathophysiology
Juliane Winkelmann
Munich, Germany

15:40 The spectrum of treatment options in RLS
Diego Garcia-Borreguero
Madrid, Spain

16:20 Management of the difficult RLS cases: RLS associated with psychiatric disease, in pregnancy, other movement disorders
Birgit Högl
Innsbruck, Austria

At the conclusion of this session, participants should be better able to:
1. Understand the genetics architecture of RLS and implications on diagnosis and pathophysiology
2. Describe the spectrum of treatment options for RLS – including dopaminergic, non-dopaminergic therapy, iron and their complications
3. Manage difficult cases associated with psychiatric or other neurologic diseases including RLS in pregnancy (secondary RLS)

Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

4211 Parallel Session
rTMS as a potential treatment in Parkinson’s disease
15:00 – 17:00

Location: Bayside 201-203

Chairs: Alfredo Berardelli
Rome, Italy
Yoshikazu Ugawa
Fukushima, Japan

15:00 rTMS as a tool to understand the physiology of the motor system
Michael Ridding
Adelaide, Australia

At the conclusion of this session, participants should be better able to:
1. Understand the mechanisms of physical exercise on the brain in movement disorders
2. Discuss the physiological basis for therapeutic effects of exercise in hypokinetic movement disorders
3. Discuss the physiological basis for therapeutic effects of exercise in ataxias

Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

4212 Parallel Session
How to train the brain: Exercise for movement disorders
15:00 – 17:00

Location: Parkside Ballroom B

Chairs: Daniela Berg
Tübingen, Germany
Meg Morris
Bundoora, Australia

15:00 The basic science of training effects
Michael Zigmond
Pittsburg, PA, USA

15:40 Training for Parkinson’s disease: What is possible?
Meg Morris
Bundoora, Australia

16:20 Training for ataxia
Matthias Synofzik
Tübingen, Germany

At the conclusion of this session, participants should be better able to:
1. Understand the main challenges in accurate ante-mortem diagnosis of MSA
2. Recognize the spectrum of non-motor symptoms in MSA
3. Understand the latest developments in the pathogenesis and therapeutic frontiers in MSA

Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees
Wednesday, June 19, 2013

4213 Parallel Session

**The broad heterogeneity of C9ORF72 mutations: The most common genetic forms of FTD/ALS/parkinsonism**

**15:00 – 17:00**

**Location:** Bayside Gallery A

**Chairs:** John Hodges
Sydney, Australia
Ian Mackenzie
Vancouver, BC, Canada

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4214 Parallel Session

**What have we learned from the different integrated care models of Parkinson’s disease and other movement disorders?**

**15:00 – 17:00**

**Location:** Bayside 204

**Chairs:** Bastiaan Bloem
Nijmegen, Netherlands
Nir Giladi
Tel Aviv, Israel

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4315 Teaching Course

**Recognizing and understanding hyperkinetic movement disorders**

**15:00 – 17:00**

**Location:** Bayside Terrace

**Chairs:** Hubert Fernandez
Cleveland, OH, USA
Ainhi Ha
Sydney, Australia

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**At the conclusion of this session, participants should be better able to:**
1. Learn the genetic mechanisms associated with the C9ORF72 mutation which make it the most common genetic cause of both FTD and ALS
2. Recognize novel pathological features of C9ORF72 mutations which indicate novel disease mechanisms with implications for treatment
3. Understand the variable phenotype associated with the C9ORF72 mutation which includes FTD, ALS and a wide range of other movement disorders

**Recommended Audience:** Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees
Wednesday, June 19, 2013

4316 Teaching Course
Clinical examination in movement disorders
15:00 – 17:00
Location: Bayside Gallery B
Chairs: Rick Stell
Perth, Australia
David Williams
Melbourne, Australia
15:00 Examination tips in tremor
John O’Sullivan
Coorparoo, Australia
15:40 Examination pearls in parkinsonism
David Williams
Melbourne, Australia
16:20 Examination highlights in hyperkinetic movement disorders
Mohit Bhatt
Mumbai, India

4403 Skills Workshop
New Unified Parkinson’s Disease Rating Scale: MDS-UPDRS
17:30 – 19:00
Location: Bayside Auditorium A
In this interactive session, participants will be better able to:
1. Understand the application, recording, and interpretation of the scale, both for research and clinical practice
2. Recognize the relationships between the MDS-UPDRS scores and other independent measures usually applied for assessment of severity of the Parkinson’s disease manifestations
3. Apply the MDS-UPDRS and understand its performance in different settings
Recommended Audience: Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees
Supported by an unrestricted educational grant from Medtronic, Inc.

4404 Skills Workshop
Pearls in the management of DBS patients
17:30 – 19:00
Location: Parkside Ballroom B
In this interactive session, participants will be able to recognize post-operative issues with DBS in patients with Parkinson’s disease and dystonia, to develop strategies of management, and to optimize surgical and medical treatment after DBS.
Paul Boullos-Bejjani
Byblos, Lebanon
Stephen Tisch
Sydney, Australia

4405 Skills Workshop
Lessons I learned from my patients
17:30 – 19:00
Location: Parkside Ballroom A
In this interactive session, the faculty will present clinical cases from their own practice and discuss the lessons learned when critical appraisal of clinical features has led to a revision of diagnosis and change in management.
Niall Quinn
London, United Kingdom
Bhim Singhal
Mumbai, India

4406 Skills Workshop
The clinician loses his balance: How to approach genetic and non-genetic ataxias
17:30 – 19:00
Location: Bayside 204
In this interactive session, which will be illustrated with video examples, participants will be instructed on using clinical, instrumental and genetic tools to investigate different forms of ataxias.
Thomas Klockgether
Bonn, Germany
Bart van de Warrenburg
Nijmegen, Netherlands

At the conclusion of this session, participants should be better able to:
1. Recognize the phenomena of common and less common forms of genetic ataxias
2. Identify a clinical diagnostic approach to distinguish genetic from non-genetic ataxias
3. Understand laboratory and neuroimaging studies useful to identify the different forms of ataxias
Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees
### Daily Schedule

**Wednesday, June 19, 2013**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
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</table>
| 17:30 – 19:00 | **Urological and sexual dysfunction in parkinsonism**

**Location:** Bayside Gallery A

In this interactive session, participants will gain a greater appreciation of the range of sexual and urological problems in people with parkinsonism and the treatment options available.

- Gila Bronner
- Ramat-Gan, Israel
- Jalesh Panicker
- London, United Kingdom

At the conclusion of this session, participants should be better able to:

1. Understand basic principles of the physiology of micturition and sexual function
2. Diagnose and manage the bladder disturbances in parkinsonian disorders
3. Diagnose and manage the sexual disturbances in Parkinsonian disorders

**Recommended Audience:** Basic scientists, Clinical academicians, Health Professionals (Non-Physician), practitioners, Students/Residents/Trainees

| 17:30 – 19:00 | **Movement disorders in children: A brave new world**

**Location:** Bayside Gallery B

In this interactive session, participants will be better able to describe the different movement disorders in children, identifying the most common causes and become familiar with current therapeutic strategies.

- Hilla Ben-Pazi
- Jerusalem, Israel
- Padraic Grattan-Smith
- Matraville, Australia

At the conclusion of this session, participants should be better able to:

1. Identify the diversity of the phenomenology of movement disorders in children
2. Make a differential diagnosis of the etiology of most common pediatric movement disorders
3. Establish therapeutic strategies for movement disorders in children

**Recommended Audience:** Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

| 17:30 – 19:00 | **What if it’s not Huntington’s disease?**

**Location:** Bayside 201-203

In this interactive session, participants will be better able to recognize the phenomenology of the different etiologies and outline appropriate investigations for the differential diagnosis of the most frequent forms of genetic and acquired chorea.

- Anne-Catherine Bachoud-Levi
- Creteil, France
- Joaquim Ferreira
- Lisbon, Portugal

At the conclusion of this session, participants should be better able to:

1. Correctly diagnose the cranio-cervical movement disorders
2. Figure out the treatment and management of each specific condition
3. Link each condition to molecular/genetic diagnosis if possible

**Recommended Audience:** Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

| 17:30 – 19:00 | **The spectrum of cranio-cervical movement disorders**

**Location:** Bayside Terrace

In this interactive session, participants will be better able to describe the different manifestation of cranio-cervical movement disorders and choose the most appropriate therapeutic measures or management.

- Giovanni Fabbrini
- Rome, Italy
- Maria Stamelou
- Athens, Greece

At the conclusion of this session, participants should be better able to:

1. Correctly diagnose the cranio-cervical movement disorders
2. Figure out the treatment and management of each specific condition
3. Link each condition to molecular/genetic diagnosis if possible

**Recommended Audience:** Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

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**Location:** Bayside Gallery A

**Location:** Bayside 201-203

**Location:** Bayside Terrace

**Location:** Bayside Grand Hall

**Location:** Bayside Auditorium B

Please see page 20 for more information.
Thursday, June 20, 2013

5101 Plenary Session XI
Developments in psychogenic movement disorders
8:00 – 9:30
Location: Bayside Auditorium B
Chairs: Kailash Bhatia
London, United Kingdom
Mark Hallett
Bethesda, MD, USA

8:00 Clinical aspects of PMD
Anthony Lang
Toronto, ON, Canada

8:30 The neurobiology of PMD
Mark Edwards
London, United Kingdom

9:00 Management of PMD
Jon Stone
Edinburgh, United Kingdom

At the conclusion of this session, participants should be better able to:
1. Recognize clinical features of psychogenic movement disorders
2. Recognize the pathophysiology and neurobiology of PMD
3. Consider management strategy for PMD disorders including medical and rehabilitative options
Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

5102 Controversies in Movement Disorders, cont.
10:00 – 11:00
Location: Bayside Auditorium B
Chairs: Cynthia Comella
Chicago, IL, USA
Nir Giladi
Tel Aviv, Israel

10:00 (YES) PDD and DLB are one and the same disorder and should be merged
John Duda
Philadelphia, PA, USA

10:15 (NO) PDD and DLB are one and the same disorder and should be merged
David John Burn
Newcastle upon Tyne, United Kingdom

10:30 (YES) Active impulse control disorders are an indication for DBS
Paul Krack
Grenoble, France

10:45 (NO) Active impulse control disorders are an indication for DBS
Michael Okun
Gainesville, FL, USA

At the conclusion of this session, participants should be better able to:
1. Recognize the similarities and differences between PPD and DLB
2. Recognize the agreements both for and against "lumping" these two disorders together
3. Understand the frequency of ICDs in patients being considered for DBS surgery
4. Recognize the potential advantages and disadvantages to DBS surgery in patients with active ICDs
Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

5103 Blue Ribbon Highlights
11:00 – 12:00
Location: Bayside Auditorium B
Chairs: C. Warren Olanow
New York, NY, USA
Olivier Rascol
Toulouse, France

This session will provide a critical review of the best poster presentations by a panel of experts, highlighting the relevance, novelty, and quality of both clinical and basic research presented by the delegates.
Erwan Bezard
Bordeaux, France
Matthew Stern
Philadelphia, PA, USA

At the conclusion of this session, participants should be better able to:
1. Gain an overview of recent developments in the basic science of movement disorders
2. Gain an overview of recent clinical developments
3. Gain an overall perspective on current topics of interest in movement disorders
Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

Corporate Therapeutic Symposia
12:00 – 13:00
Please see pages 62-63 for more information.

Poster session 4
13:00 – 14:30
Location: Exhibition Hall 5
Poster viewing: 9:00 – 16:00
Abstract numbers: 992 - 1322

Abstract Topics:
Drug-induced Movement Disorders
Spasticity
Basic Science
Education in movement disorders
Epidemiology
Genetics
History
Lewy Body Dementia and other demen- tias in movement disorders
Myoclonus
Neuropharmacology
Quality of life/caregiver burden in movement disorders
Surgical Therapy: Other Movement Disorders
Surgical Therapy: Parkinson’s Disease

Guided Poster Tours
GPT 13: Huntington’s disease
13:00 – 14:30
Location: Bayside Gallery A
Leaders: Elizabeth McCusker
Westmead, Australia
Ralf Meilmann
Muenster, Germany

GPT 14: Parkinson’s disease: Clinical Trials
13:00 – 14:30
Location: Bayside Gallery B
Leaders: Jeffrey Kordower
Chicago, IL, USA
Robert Hauser
Tampa, FL, USA

GPT 15: Parkinson’s disease: Phenomenology
13:00 – 14:30
Location: Bayside 201-203
Leaders: Timothy Lynch
Dublin, Ireland
David Riley
South Euclid, OH, USA
Thursday, June 20, 2013

5206 Parallel Session

Induced pluripotent stem cells for Parkinson’s disease: Past, present and future
15:00 – 17:00
Location: Bayside 204
Leader: Mark Edwards
London, United Kingdom

At the conclusion of this session, participants should be better able to:
1. Explain how iPS cells are generated and where we stand on their future use as treatment for neurodegenerative disorders
2. Interpret how iPS cells are instrumental in elucidation of patho-genetic mechanisms underlying neurodegenerative diseases including Parkinson’s disease
3. Describe risks and benefits of iPS cell transplantation therapy in Parkinson’s disease
Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Students/Residents/Trainees

5207 Parallel Session

Regional atypical parkinsonian syndromes
15:00 – 17:00
Location: Bayside 201-203
Chairs: Irene Litvan
La Jolla, CA, USA
Huw Morris
Cardiff, United Kingdom

At the conclusion of this session, participants should be better able to:
1. Classify and investigate a patient presenting with “primary” (pure) dystonia
2. Classify and investigate a patient presenting with “secondary” (mixed) dystonia
3. Treat dystonia with medications and know when to consider more invasive or advanced therapies
Recommended Audience: Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees

5208 Parallel Session

An update on dystonia
15:00 – 17:00
Location: Parkside Ballroom B
Chairs: Victor Fung
Westmead, Australia
Christine Klein
Lübeck, Germany

At the conclusion of this session, participants should be better able to:
1. Classify and investigate a patient presenting with “primary” dystonia
2. Classify and investigate a patient presenting with “secondary” dystonia
3. Treat dystonia with medications and know when to consider more invasive or advanced therapies
Recommended Audience: Clinical academicians, Health Professionals (Non-Physician), Practitioners, Students/Residents/Trainees
### Thursday, June 20, 2013

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<th>Title</th>
<th>Time</th>
<th>Location</th>
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<td><strong>5209</strong></td>
<td>Movement disorders in internal medicine</td>
<td>15:00 – 17:00</td>
<td>Bayside 204</td>
<td>Oscar Gershanik, Buenos Aires, Argentina; Jonas Hon Ming Yeung, Hong Kong</td>
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<td><strong>5210</strong></td>
<td>Movement disorders and non-neurological infections</td>
<td>15:00</td>
<td>Quito, Ecuador</td>
<td>Fernando Alarcon</td>
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<td><strong>5210</strong></td>
<td>Movement disorders in systemic disease</td>
<td>15:40</td>
<td>Hong Kong</td>
<td>Jonas Hon Ming Yeung</td>
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<td><strong>5210</strong></td>
<td>Movement disorders and non-psychiatric drugs</td>
<td>16:20</td>
<td>Buenos Aires, Argentina</td>
<td>Oscar Gershanik</td>
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**5210** | **New therapeutic strategies for alleviating LIDs** | 16:20 | Toronto, ON, Canada | Jonathan Brotchie |

At the conclusion of this session, participants should be better able to:
1. Describe the biochemical, anatomical and physiological hallmarks of levodopa-induced dyskinesias (LIDs) in the striatum
2. Describe alterations in the properties of the striatal network controlling movement
3. Identify the therapeutic strategies being developed to alleviate LIDs

**5311** | Imaging techniques in degenerative movement disorders: A window on the pathologist’s world | 15:00 – 17:00 | Bayside Gallery B | Daniela Berg, Tübingen, Germany; Antonio Strafella, Toronto, ON, Canada |

At the conclusion of this session, participants should be better able to:
1. Describe different MRI techniques used in movement disorders
2. Define the role of transcranial sonography in Parkinson’s disease
3. Describe the contribution of receptor imaging in movement disorders

**5312** | Update on botulinum toxin treatment | 15:00 – 17:00 | Bayside Terrace | Cynthia Comella, Chicago, IL, USA; Erle Chuen-Hian Lim, Singapore |

At the conclusion of this session, participants should be better able to:
1. Identify the scientific basis for botulinum toxin therapy and distinguish toxin formulations
2. Understand methods of administering botulinum toxins including palpation, EMG, ultrasound, and imaging
3. Discuss treatment paradigms for dystonia and spasticity using patient videos

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**5311** | The role of magnetic resonance imaging techniques in neurodegenerative diseases | 15:00 | Vancouver, BC, Canada | Martin McKeown |

**5311** | Transcranial sonography in Parkinson’s disease | 15:40 | Daniela Berg, Tübingen, Germany | |

**5311** | PET receptor imaging in movement disorders | 16:20 | London, United Kingdom | Nicola Pavese |

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**5311** | Striatal network adaptations underlying levodopa-induced dyskinesias | 15:00 – 17:00 | Parkside Ballroom A | Malcolm Horne, Parkville, Australia; D. James Surmeier, Chicago, IL, USA |

**5311** | Biochemical, anatomical and physiological hallmarks of LIDs | 15:00 | Parkville, Australia | Malcolm Horne |

**5311** | LID-induced adaptations in the striatal network | 15:40 | Grenoble, France | Anna Castrioto |

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**5311** | Imaging techniques in degenerative movement disorders: A window on the pathologist’s world | 15:00 – 17:00 | Bayside Gallery B | Daniela Berg, Tübingen, Germany; Antonio Strafella, Toronto, ON, Canada |

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**5312** | Methods for administering botulinum toxins | 15:40 | Singapore | Erle Chuen-Hian Lim |

**5312** | Case studies: Update on treatment approaches | 16:20 | Bangkok, Thailand | Roongroj Bhidayasiri |

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3. Discuss treatment paradigms for dystonia and spasticity using patient videos

**5312** | Methods for administering botulinum toxins | 15:40 | Singapore | Erle Chuen-Hian Lim |

**5312** | Case studies: Update on treatment approaches | 16:20 | Bangkok, Thailand | Roongroj Bhidayasiri |
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Corporate Therapeutic Symposia

Monday, June 17, 2013

**Teva Pharmaceuticals Industries, Ltd./H. Lundbeck A/S**

**14:00 – 15:00**
Location: Bayside Auditorium A
Treatment Optimization in Parkinson’s Disease: When Mono-therapy is not Enough
Chair: Matthew Stern
Philadelphia, PA, USA
Optimizing Dopamine – Key to Effective Treatment in PD
Peter Jenner
London, United Kingdom
Optimizing PD Pharmacotherapy – Clinical Strategies for Managing Motor Symptoms with Combination Therapy
Robert Hauser
Tampa, FL, USA
Q&A

**Allergan, Inc.**

**14:00 – 15:00**
Location: Parkside Ballroom B
Rediscovering CD: Insights into Diagnosis, Comorbidities and Treatment Implications
Chair: David Williams
Melbourne, Australia
Multidimensional Aspects of CD: A Physician, Patient and Societal Perspective
David Williams
Melbourne, Australia
CD Comorbidities and Botulinum Toxin
Sheena Aurora
Stanford, CA, USA
CD Comorbidities and Underlying Genetic Mechanisms
Nutan Sharma
Boston, MA, USA
Panel discussion and closing remarks

Tuesday, June 18, 2013

**Ipsen Pharma**

**14:00 – 15:00**
Location: Bayside Auditorium A
Stepping forward in the real life management of patients with movement disorders
Chair: Andrew Hughes
Melbourne, Australia
Managing cervical dystonia patient expectations – the key to a successful treatment
Kailash Bhatia
London, United Kingdom
Are cervical dystonia measurement scales in line with real needs?
Susan Fox
Toronto, ON, Canada
Shaping spasticity management to achieve patient goals
Ian Baguley
Westmead, Australia

**UCB Pharma S. A.**

**14:00 – 15:00**
Location: Parkside Ballroom B
An update in management of Parkinson’s disease
Chair: Michael Hayes
Concord, Australia
Challenges in managing the motor symptoms in the early and advanced Parkinson’s disease patient
Masahiro Nomoto
Tokyo, Japan
Non-motor symptoms in Parkinson’s disease: The other face of the disease
Michael Hayes
Concord, Australia
Parkinson’s disease in elderly patients: Key considerations when treating this population
Evzen Ruzicka
Prague, Czech Republic

**Science and Technology Pavilion**

**Teva Pharmaceuticals Industries, Ltd. and H. Lundbeck A/S**

**8:30 – 17:00**
Location: Bayside 106

During the 17th International Congress of Parkinson’s Disease and Movement Disorders, MDS’ industry partners are able to provide physicians the opportunity to learn about the latest science in an interactive session, known as the Science and Technology Pavilion.

The Science and Technology Pavilion will provide a less hurried educational atmosphere in which physicians and healthcare professionals can interact with company representatives to enhance their knowledge of emerging technologies and optimal treatment techniques, and experience hands-on demonstrations of the latest technology in a private atmosphere. CME will be not given for any activities in the Science and Technology Pavilion. All Congress participants are encouraged to visit the Pavilion.
Corporate Therapeutic Symposia

**Wednesday, June 19, 2013**

**AbbVie**

**13:30 – 14:30**
Location: Bayside Auditorium A

Continuous dopaminergic stimulation therapy: A new era for care in advanced Parkinson’s disease?

Chairs: Erik Wolters
Amsterdam, The Netherlands
Angelo Antonini
Venice, Italy

Chair’s introduction
Erik Wolters
Amsterdam, The Netherlands

Clinical value of levodopa-carbidopa intestinal gel: Latest evidence
Hubert H. Fernandez
Cleveland, OH, USA

Improving outcomes with continuous dopaminergic stimulation therapy: Who to treat?
Per Odin
Bremerhaven, Germany

Who and how to treat with continuous dopaminergic stimulation therapy? Patent cases
Angelo Antonini
Venice, Italy

Panel discussion

Chair’s summary
Angelo Antonini
Venice, Italy

**Novartis Pharma AG**

**13:30 – 14:30**
Location: Parkside Ballroom B

Levodopa-induced motor complications: New insights into risk and management

Chairs: C. Warren Olanow
New York, NY, USA
Fabrizio Stocchi
Rome, Italy

Introduction
C. Warren Olanow
New York, NY, USA

Motor and non-motor complications in Parkinson’s disease: Clinical presentations and mechanisms
José Obeso
Pamplona, Spain

Risk factors for the development of motor complications in Parkinson’s disease
C. Warren Olanow
New York, NY, USA

A practical approach to risk reduction of motor complications
Anthony Schapira
London, United Kingdom

Panel discussion
All

**Thursday, June 20, 2013**

**Britannia Pharmaceuticals Limited**

**12:00 – 13:00**
Location: Bayside Auditorium B

Infusion of Apomorphine in Parkinson’s disease: New considerations

Chair: Werner Poewe
Innsbruck, Austria

Apomorphine infusion for motor complications in Parkinson’s disease – current evidence and new perspectives
Regina Katzenschlager
Vienna, Austria

New data to guide optimised treatment with apomorphine
Sophie Drapier
Paris, France
Exhibitor Information

Exhibit Hall
Location: Exhibition Hall 5

Please allow adequate time in your daily schedule to visit the Exhibit Hall. The exhibition is an integral component of your International Congress experience, offering you the opportunity to speak with representatives of companies providing services or marketing products directly related to Movement Disorders.

Exhibit Hall hours are as follows:
Sunday, June 16.................................19:30 – 21:00*
Monday, June 17...............................9:00 – 18:00
Tuesday, June 18..............................9:00 – 18:00
Wednesday, June 19...........................9:00 – 18:00
Thursday, June 20.............................9:00 – 16:00
(*during Welcome Ceremony)

Exhibitor Registration
Location: Parkside Promenade, Ground Level

Exhibitors must register and pick up their badge at the Exhibitor Registration Desk.

Exhibitor Registration Desk hours are as follows:
Saturday, June 15.............................16:00 – 20:00
Sunday, June 16...............................7:00 – 18:00
Monday, June 17...............................7:00 – 18:00
Tuesday, June 18..............................7:00 – 18:00
Wednesday, June 19..........................7:00 – 18:00
Thursday, June 20.............................7:00 – 16:00

Exhibitor Badge Policy
Admission to the Exhibit Hall will be by name badge only. Security guards will monitor Exhibit Hall entrances for proper identification. Exhibit stand personnel must show an official MDS exhibitor name badge in order to gain access to the Exhibit Hall during installation, show, or dismantling hours.

Exhibitor Personnel Badge (Yellow): Allows admittance to the Exhibit Hall only.

Endorsement Disclaimer
Products and services displayed in the Exhibit Hall or advertised in the program occur by contractual business arrangements between MDS and participating companies and organizations. These arrangements do not constitute nor imply an endorsement by MDS of these products and services.
Exhibit and Poster Hall Floor Plan
Exhibitor Directory

**ABBVIE**
1 North Waukegan Road  
North Chicago, IL 60064  
United States  
Telephone: +1 847-938-6918  
Website: www.abbvie.com  
**Booths #: 2, 21**

AbbVie is a global, research-based biopharmaceutical company formed in 2013 following separation from Abbott. With its 125-year history, the company’s mission is to use its expertise, dedicated people and unique approach to innovation to develop and market advanced therapies that address some of the world’s most complex and serious diseases. In 2013, AbbVie employs approximately 21,000 people worldwide and markets medicines in more than 170 countries. For further information on the company and its people, portfolio and commitments, please visit www.abbvie.com.

**ALLERGAN**
810 Pacific Hwy, Gordon  
Sydney, NSW 2072  
Australia  
Telephone: +61 2 9498 0103  
Fax: +61 2 9498 0184  
Website: www.allergan.com  
**Booth #: 33**

Allergan is a global, technology-driven, multi-specialty health care company pursuing therapeutic advances to help patients live life to their fullest potential. Founded in 1950 and headquartered in Irvine, California, Allergan Inc is a pharmaceutical, biologics and medical devices company. Allergan Australia Pty Ltd was first established in Sydney in 1968. Our product offerings focus on the areas of Neurosciences, Eye Care, Medical Aesthetics, and Health (Obesity).

**BIOCSL**
45 Poplar Rd.  
Parkville, Victoria 3052  
Australia  
Telephone: +61 3 9389 2000  
Fax: +61 3 9389 1874  
**Booth #: 19**

bioCSL manufactures, markets and distributes seasonal and pandemic influenza vaccine worldwide. In Australia and New Zealand, bioCSL markets a comprehensive range of vaccines and pharmaceutical products. It also manufactures products of national significance for Australia, including antivenoms and Q-Fever vaccine, and supplies diagnostic reagents in the Australasia region. bioCSL’s cold-chain logistics business ensures the integrity of CSL products, as well as those of our customers, as they are safely delivered across Australia.

**BOEHRINGER INGELHEIM**
78 Waterloo Rd.  
North Ryde, NSW 2113  
Australia  
Telephone: +612 8875 8800  
Website: www.boehringer-ingelheim.com  
**Booth #: 22**

The Boehringer Ingelheim group is one of the world's 20 leading pharmaceutical companies. Headquartered in Ingelheim, Germany, it operates globally with 145 affiliates and more than 44,000 employees. Since it was founded in 1885, the family-owned company has been committed to researching, developing, manufacturing and marketing novel products of high therapeutic value for human and veterinary medicine.

**BOSTON SCIENTIFIC**
25155 Rye Canyon Loop  
Valencia, CA 91355  
USA  
Telephone: +1 661-949-4000  
Website: www.controlyourpain.com  
**Booth #: 44**

Investing in innovative products, clinical initiatives, and world-class service, Boston Scientific is committed to leading the way in spinal cord stimulation by providing better pain relief to a broad range of patients.

**BRITANNIA PHARMACEUTICALS LTD**
100 Berkshire Place  
Wharfedale Roade  
Winnersh, Berkshire RG41 5RD  
United Kingdom  
Website: www.britannia-pharm.com  
**Booth #: 10**

Britannia Pharmaceuticals Limited is a UK based pharmaceutical company specializing in niche innovative products for chronic and serious medical conditions, and in particular, the treatment of patients with Parkinson’s disease. The need for apomorphine as a treatment option for Parkinson’s disease has led to the development of APO-go and other associated brands around the globe, which are available in many countries through our Distribution or Licensing Partners. For more information please visit www.britannia-pharm.com or www.apo-go.com
Exhibitor Directory

GLOBAL KINETICS CORPORATION
530 Collins Street, Level 6
Melbourne, VIC 3000
Australia
Telephone: +61 3 9605 0847
Fax: +1 704-752-1479
Website: www.globalkineticscorporation.com

**Booth #: 11**

GKC has developed the Parkinson’s KinetiGraph (PKG) for objective ambulatory assessment of PD. The PKG records patients’ movement continuously over 10 days and reports a patient’s clinical state including scaled measures of bradykinesia and dysregulation with repeat reliability, links fluctuations with the timing of medication and provides a record of patient compliance.

GREAT LAKES NEUROTECH
10055 Sweet Valley Drive
Cleveland, OH 44125
USA
Fax: +1 216-361-5420
Website: www.GLNeuroTech.com

**Booth #: 20**

Great Lakes NeuroTechnologies provides innovative medical systems for Parkinson’s disease. Kinesia technology remotely and quantitatively captures Parkinson’s symptoms using motion sensors and a touchscreen tablet PC integrated with broadband and video instructions. Kinesia HomeView transfers trends from patient homes to web-based reports that visualize symptoms and fluctuations for telemedicine applications. Kinesia ProView is used in the clinic to visualize motor symptom changes in response to DBS programming and track changes over time with web-based reports.

IPSEN
65 Quai Georges Gorse
Boulogne Billancourt 92100
France
Telephone: +33 1 58 33 6058
Website: www.ipsen.com

**Booth #: 34**

Ipsen is a global specialty-driven pharmaceutical company with total sales exceeding €1.2 billion in 2012. Ipsen’s ambition is to become a leader in specialty healthcare solutions for targeted debilitating diseases. Its development strategy is supported by four franchises: neurology, endocrinology and uro- oncology. Moreover, the Group has an active policy of partnerships. R&D is focused on innovative and differentiated technological patient-driven platforms, peptides and toxins. In 2012, R&D expenditure totaled close to €250 million, representing more than 20% of Group sales.

KINETICS FOUNDATION
PO Box 645
Los Altos, CA 94023
USA
Telephone: +1 650-523-1310
Website: www.kineticsfoundation.org

**Table #: E**

The Kinetics Foundation is a private bioengineering philanthropy in Silicon Valley. Our Objective Parkinson’s Disease Measurement (OPDM) System is a platform for functional biomarkers of PD. Our latest system, OPDM 2.0, works on web and smartphone platforms. We also inform surgical trials on direct drug delivery techniques to the brain.

KYOWA HAKKO KIRIN CO., LTD.
1-6-1, Ortemachi, Chiyoda-ku
Tokyo 100-8185
Japan
Telephone: +81 3 3282 0959

**Booth #: 28**

Kyowa Hakko Kirin is a Japan-based global Specialty Pharmaceutical Company contributing to human health and well-being worldwide. One of its strategic categories is CNS area, to help/support the treatment of patients suffering from Parkinson’s disease and other CNS diseases.

LEICA MICROSYSTEMS
Unit 3, 112-118 Talavera Road
North Ryde, NSW 2113
Australia
Telephone: +1800 625 286
Website: www.leica-microsystems.com

**Booth #: 4**

Leica Microsystems is a leading global designer and producer of innovative high-tech precision optics systems. Leica Microsystems is a market leader in Microscopy, Confocal Microscopy, Microscopy Software, Specimen Preparation and Medical Equipment. It offers solutions for life sciences, neuroscience and the science of raw materials and industrial quality assurance.
Exhibitor Directory

MEDTRONIC, INC.
710 Medtronic Parkway
Minneapolis, MN 55432
United States
Telephone: +1 800-328-2518
Fax: +1 763-505-1000
Website: www.medtronic.com
Booth #: 9
At Medtronic, we’re committed to innovating for life by pushing the boundaries of medical technology and changing the way the world treats chronic disease. Last fiscal year, more than eight million patients benefited from our products and therapies. Medtronic DBS Therapy has been used in more than 100,000 patients worldwide for the treatment of Parkinson’s disease, essential tremor and dystonia.

NEUROLOGICAL FOUNDATION OF NEW ZEALAND
P.O. Box 110022
Auckland City Hospital
Auckland 1148
New Zealand
Telephone: +64 9 309 7749
Website: www.neurological.org.nz
Table #: C
The Neurological Foundation is an independent body and charitable trust, and is the only dedicated funder of New Zealand-based clinical and biomedical neurological research. All funding is generated from individual and community donations, and enables leading neuroscientists and neurologists to progress their innovative, high-quality research across many universities and hospitals in New Zealand. Join us at www.neurological.org.nz

NOVARTIS PHARMA AG
Forum 1, Novartis Campus
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Switzerland
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Fax: +41 61 324 8001
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Table #: A
Oxford University Press is a department of the University of Oxford. It furthers the University’s objective of excellence in research, scholarship, and education by publishing worldwide.

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ProtoKinetics develops human movement analysis systems for use in research, education, and in the clinic. ProtoKinetics Movement Analysis Software and Zeno Walkway provide scientifically valid and clinically relevant output measures for a variety of static and dynamic tests that can be applied across the healthcare industry.
Exhibitor Directory

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UCB aspires to be the patient-centric global biopharmaceutical leader, transforming the lives of people with severe diseases. At UCB our sense of purpose is to help people suffering from severe central nervous system disorders lead normal, everyday lives. Our ambition is to offer them innovative new medicines and ground-breaking solutions that go beyond the drug. We are committed to enabling cutting-edge scientific research that is driven by patients’ needs.

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1359 Broadway, Suite 1509
New York, NY 10018
United States
Telephone: +1 800-457-6676
Fax: +1 212-923-4778
Website: www.worldpdcongress.org
Table #: B
The 3rd World Parkinson Congress | WPC 2013 will take place from October 1 to 4, 2013 in Montreal, Canada. Physicians, neuroscientists, nurses, rehabilitation specialists, people with PD, care partners and government officials will come together to learn about the latest scientific discoveries, medical practices, and care initiatives for Parkinson's disease. Visit www.worldpdcongress.org to learn more about this unique global event.
### GUIDED POSTER TOUR 1 –
**Basic science**
Bayside Level 1, Bayside Gallery A
**12:30 – 14:00**
**Monday, June 17, 2013**
Tour Leaders:
Anthony Schapira, London, United Kingdom

<table>
<thead>
<tr>
<th>Poster Number</th>
<th>Title</th>
<th>Authors</th>
<th>Affiliations</th>
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<tbody>
<tr>
<td>1004</td>
<td>RNAi-mediated silencing of VPS35 exacerbates phenotypic and locomotor abnormalities in a-α-synuclein transgenic drosophila</td>
<td>T. Hasegawa, M. Konno, E. Miura, N. Sugeno, Y. Nagai, N. Fujikake, M. Suzuki, A. Kikuchi, M. Aoki, A. Takeda (Sendai, Japan)</td>
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<tr>
<td>1005</td>
<td>Nedd4 E3 ubiquitin ligase facilitates the endosomal targeting of alpha-synuclein</td>
<td>N. Sugeno, T. Hasegawa, M. Konno, E. Miura, A. Kikuchi, M. Aoki, A. Takeda (Sendai, Japan)</td>
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<tr>
<td>1008</td>
<td>Impaired redox balance and autophagosome clearance in fibroblasts from Parkinson’s disease patients with LRRK2 G2019S mutation</td>
<td>A. Grünewald, B. Arns, P. Seibler, B. Meier, A. Rakovic, C. Klein (Lübeck, Germany)</td>
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<tr>
<td>1017</td>
<td>Role of the ubiquitin proteasome system and the lysosomal system in PINK1-/ parkin-dependent mitophagy in human primary fibroblasts</td>
<td>K. Shurkewitsch, A. Rakovic, C. Klein (Lübeck, Germany)</td>
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<td>1018</td>
<td>Cholinergic olfactory centrifugal inputs are reduced in patients with neurodegenerative disorders and MPTP treated monkeys</td>
<td>I.C. Mundina, M. Hernandez, C. Ordoñez, C. Di Caudo, I. Marcilla, T. Tuñon, M.R. Luquin (Pamplona, Spain)</td>
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<tr>
<td>1024</td>
<td>Copper pathology in the vulnerable substantia nigra in Parkinson’s disease</td>
<td>K.M. Davies, S. Bohic, R. Ortega, V. Cottam, D.J. Hare, J.P.M. Finberg, G. Halliday, J.F.B. Mercer, K.L. Double (Sydney, Australia)</td>
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<td>1034</td>
<td>Withdrawn by Author</td>
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<td>1039</td>
<td>Overexpression of cannabinoid CB2 receptors attenuated the progressive motor impairment and nigrostriatal dopaminergic neurons loss in MitoPark mouse</td>
<td>F. Navarrate-Rueda, J.M. Pérez-Ortiz, M.S. Garcia-Gutierrez, J.A. Molina-Arjona, C. Leiva-Santana, J. Manzanares (San Juan de Alicante, Spain)</td>
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### GUIDED POSTER TOUR 2 –
**Parkinson's disease: Behavioral disorders**
Bayside Level 1, Bayside Gallery B
**12:30 – 14:00**
**Monday, June 17, 2013**
Tour Leaders:
Hubert Fernandez, Cleveland, OH, USA
Daniel Weintraub, Ardmore, PA, USA

Supported by an unrestricted educational grant from UCB Pharma SA.

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<th>Poster Number</th>
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<th>Affiliations</th>
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<tbody>
<tr>
<td>345</td>
<td>I finally see what you see: A window into Parkinson’s disease hallucinations</td>
<td>G.T. Stebbins, C.G. Goetz, J.G. Goldman, C.L. Vaughan (Chicago, IL, USA)</td>
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<td>354</td>
<td>Gray matter neuroimaging signatures of Parkinson’s disease hallucinations</td>
<td>J.G. Goldman, V. Dinh, G.T. Stebbins, B. Bernard, L. deToledo-Morrell, C.G. Goetz (Chicago, IL, USA)</td>
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<tr>
<td>360</td>
<td>Sedentary behavior increases over 18 months in early Parkinson’s disease</td>
<td>S. Lord, A. Godfrey, B. Galna, M. Hriri, D. Burn, L. Rochester (Newcastle upon Tyne, United Kingdom)</td>
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<td>375</td>
<td>Psychiatric comorbidities among hospitalized Parkinson’s disease patients</td>
<td>M. Minen, N. Mejia (Boston, MA, USA)</td>
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Guided Poster Tours

GUIDED POSTER TOUR 3 –
Parkinson’s disease: Neuropharmacology
Bayside Level 2, Bayside 201-203
12:30 – 14:00
Monday, June 17, 2013
Tour Leaders:
Mark Guttman, Markham, ON, Canada
Cristina Sampaio, Princeton, NJ, USA

580 Behavioural, biochemical and cellular correlates in the neuroprotective potential of HMG-CoA reductase inhibitors (atorvastatin and simvastatin) against 6-hydroxydopamine (6-OHDA) induced Parkinson-like symptoms in rats
J. Mishra, N. Sharma, A. Kumar (Chandigarh, India)

587 Inosine inhibited the neurotoxicity of MPTP on the dopaminergic neurons

589 Performance of a task learned when “on” deteriorates when subsequently practiced in “off” state
E.D. Anderson, E. Murdock, H. Fay, J.G. Nutt (Portland, OR, USA)

593 Chronic treatment with MPEP, an mGlu5 receptor antagonist, normalizes basal ganglia glutamate neurotransmission in L-DOPA-treated parkinsonian monkeys
N. Morin, M. Morissette, L. Grégoire, B. Gomez-Mancilla, F. Gasparini, T. Di Paolo (Quebec, QC, Canada)

594 Identifying the transcriptomic signature of L-DOPA-induced dyskinesias
L.M. Smith, E.J. Duncan, L.C. Parr-Brownlie, M.A. Black, P.K. Dearden, J.N. Reynolds (Dunedin, New Zealand)

596 The EuroInf study: A multi-centre European comparative study of apomorphine versus intrajejunal levodopa infusion in a real life cohort of Parkinson’s disease patients

600 Investigating the neuroprotective effects of valproate, an epigenetic histone deacetylase inhibitor, in Parkinson’s disease using preclinical magnetic resonance imaging
I.F. Harrison, D.T. Dexter (London, United Kingdom)

607 Withdrawn by Author

612 Effects of chronic D2/3 agonist ropinirole medication on rodent models of gambling behaviour
M. Tremblay, J.G. Hosking, C.A. Winstanley (Vancouver, BC, Canada)

619 Time-to-levodopa depending on initial PD medication: A retrospective cohort study

GUIDED POSTER TOUR 4 –
Sleep disturbance and RLS
Bayside Level 2, Bayside 204
12:30 – 14:00
Monday, June 17, 2013
Tour Leaders:
K. Ray Chaudhuri, London, United Kingdom

651 Rare variants in restless legs syndrome

623 Withdrawn by Author

624 Plasma urate in REM sleep behavior disorder

626 The impact of daytime napping on executive cognitive dysfunction in Parkinson’s disease
S.J. Bolitho, S.L. Naismith, S.J. Lewis (Sydney, Australia)

628 REM sleep behavior disorder after bilateral subthalamic stimulation in Parkinson’s disease
G. Ehm, Y.E. Kim, B.S. Jeon, Y.J. Jung, Y.J. Kim (Seoul, Korea)

629 REM sleep behavior disorder in Parkinson’s disease: Association with abnormal ocular motor findings

630 Excessive chin EMG activity during rapid eye movement sleep in Parkinson’s disease: Is a marker?

631 The decrease of sleep apnea in Parkinson’s disease associated with excessive electromyography (EMG) activity
K.P. Xiong, Y. Gong, Y. Shen, Q. Tang, J.M. Xu, J. Cheng, C.F. Liu (Suzhou, China)

636 Worldwide record of REM sleep time in a patient with pedunculopontine nucleus area (PPNA) stimulation

643 Circadian expression profile of clock genes in early Parkinson’s disease patients
Guided Poster Tours

GUIDED POSTER TOUR 5 –
Dystonia
Bayside Level 1, Bayside Gallery A
12:30 – 14:00
Tuesday, June 18, 2013
Tour Leaders:
Alberto Albanese, *Milan, Italy*
Susanne Schneider, *Kiel, Germany*

1. **Basal ganglia circuit disturbances and symptomatology in primary focal dystonia (PFD)**
   B.D. Berman, M. Hallett (Aurora, CO, USA)

2. **Generation and characterisation of mice rescuing the DYT1-knockout phenotype**
   B.T. Fabry, L. Lotzer, S. Moll, J. Hettich, O. Riess, K. Grundmann, T. Ott (Tübingen, Germany)

3. **Unraveling cellular phenotypes of novel torsinA mutations**
   F. Vulinovic, P. Seibler, J. Graf, A. Ferbert, A. Rolfs, A. Schmidt, C. Klein, K. Lohmann (Lübeck, Germany)

4. **Genome sequencing reveals a mutation in the TUBB4 gene as the cause of whispering dysphonia (DYT4 dystonia)**

5. **The phenotypic spectrum of DYT23 due to ANO3 mutations**

6. **AN03 - A novel cause of primary dystonia**

7. **Developed of a comprehensive cervical dystonia rating scale**
   C.L. Comella, G.T. Stebbins, M. Zuworski, H.A. Jinnah, J.S. Perlmutter, T.A. Waliczek, A.R. Rosen, W. Galpern (Chicago, IL, USA)

8. **Abnormal thalamocortical tractography in cervical dystonia**

GUIDED POSTER TOUR 6 –
Parkinsonisms (parkinson plus and secondary)
Bayside Level 1, Bayside Gallery B
12:30 – 14:00
Tuesday, June 18, 2013
Tour Leaders:
Tove Henriksen, *Copenhagen, Denmark*
Günter Höglinger, *Munich, Germany*

1. **Prevalence and risk factors for parkinsonism among retired Filipino boxers**

2. **Clinical and neuropathological features of synucleinopathy associated with G51D SNCA mutation**

3. **Auditory cues at person-specific asymmetry and cadence improve gait stability only in people with Parkinson’s disease (PD)**

4. **Genetic influences of MAPT and SNCA on age at onset of Parkinson's disease**
   Y. Huang, G. Wang, D. Rowe, Y. Wang, J. Kwok, Q. Xiao, F. Masterglia, J. Liu, G. Halliday, S. Chen (Sydney, Australia)

5. **The “Lazy lid” sign supports the clinical diagnosis of progressive supranuclear palsy**
   S. Lorenzl, G. Nübling (Munich, Germany)

6. **Primary lateral sclerosis with marked supranuclear gaze palsy and postural instability but normal dopamine transporters imaging: A distinct PLS phenotype**
   M. Stamelou, A. Pisani, M. Edwards, K.P. Bhatia (London, United Kingdom)

7. **Young-onset and old-onset multiple system atrophy: Clinical comparison study**
   J. Kim, M.J. Kim, Y.J. Kim, S.R. Kim, M.S. Kim, S.J. Chung (Seoul, Korea)

8. **Why do patients with PSP fall?**
   B.M. Schoneburg, M. Mancini, F.B. Horak, J.G. Nutt (Portland, OR, USA)

9. **The role of statin use on incidence of Parkinson’s disease: A meta-analysis of observational studies**
   K. Undela, K. Gudala, S. Malla, D. Bansal (Mysore, India)

10. **Selegiline rescues gait deficits and dopaminergic cells in subacute MPTP mouse model of Parkinson’s disease**
    Q. Zhao, Y. Bai, D. Fang (Shanghai, China)
Guided Poster Tours

GUIDED POSTER TOUR 7 –
Rating scales and assessment tools
Bayside Level 2, Bayside 201-203
12:30 – 14:00
Tuesday, June 18, 2013
Tour Leaders:
Christopher Goetz, Chicago, IL, USA
Cristina Sampaio, Princeton, NJ, USA

325 Fatigue in Parkinson’s disease: Prevalence and associated factors
C.M. Trase Kwok, K.F. Hui, K.Y. Wong (Hong Kong)

294 Prevalence of gastroparesis symptoms in patients with early Parkinson’s disease
S.L. Marrinan, A.V. Emmanuel, D.G. Grosset, D.J. Burn (Newcastle upon Tyne, United Kingdom)

295 Test-retest reliability of a Parkinson’s disease monitoring system
D.A. Heldman, A.J. Espay, P.A. LeWitt, J.P. Guffrida (Cleveland, OH, USA)

328 Semi-automatic scoring method for torticollis by using kinect
T. Nakamura, M. Sato, H. Kajimoto (Chofu, Japan)

GUIDED POSTER TOUR 8 –
Surgical therapy: Parkinson’s disease
Bayside Level 2, Bayside 204
12:30 – 14:00
Tuesday, June 18, 2013
Tour Leaders:
Paul Krack, Grenoble, France
Jens Volkmann, Wuerzburg, Germany

1252 Steering deep brain stimulation: An exploratory study with a new 32-contact lead
M.F. Contarino, L.J. Bour, R.M.A. de Bie, P. van den Munckhof, P.R. Schuurman (Amsterdam, Netherlands)

1260 Simultaneous targeting of STN and GPi can be useful for DBS therapy in advanced Parkinson’s disease
P. Hedera, M.K. Cooper, F.T. Phibbs, P.D. Charles, P.E. Konrad, J.S. Neimat, T.L. Davis (Nashville, TN, USA)

1263 Successful long-term bilateral subthalamic nucleus deep brain stimulation in VPS35 Parkinson’s disease
V. Fleury, C. Wider, J. Horvath, A. Zacharia, J. Bally, P. Pollak, C. Pollo, F.J.G. Vingerhoets, P.R. Burkhard (Geneva, Switzerland)

326 BradykAn: A new reliable tool for measuring bradykinesia
E. Ruzicka, R. Krupicka, K. Zarubova, Z. Szabo, R. Jech (Prague, Czech Republic)
Guided Poster Tours

GUIDED POSTER TOUR 9 – Parkinson’s disease: Cognition
Bayside Level 1, Bayside Gallery A
12:00 – 13:30
Wednesday, June 19, 2013
Tour Leaders:
Murat Emre, Istanbul, Turkey
Jennifer Goldman, Chicago, IL, USA

505 Characterising mild cognitive impairment in incident Parkinson’s disease: The ICICLE-PD study
A.J. Yarnall, D.P. Breen, G.W. Duncan, R.A. Barker, D.J. Burn (Newcastle-upon-Tyne, United Kingdom)

508 The relationship between small vessel disease (SVD), vascular risk factors (VRFs) and motor and cognitive impairment in Parkinson’s disease (PD): A clinicopathological study
R.S. Schwartz, G.M. Halliday, D.J. Cordato, J.J. Kri (Sydney, Australia)

512 The neuropsychological domain differences between Parkinson’s disease patients with and without mild cognitive impairments; a longitudinal investigation
P. Hobson, J. Meara (Rhyld, United Kingdom)

519 Evaluation of driving ability in patients with Parkinson’s disease using a driving simulator

526 Relationships between non-motor symptoms in Parkinson’s disease, and their genetic and pathologic basis
G. Wang, Y. Huang, W. Chen, S. Chen, Y. Wang, D. Xiao, J. Liu, P. Sachdev, V.S.C. Fung, D. Rowe, G. Halliday, S. Chen (Sydney, Australia)

531 Motor timing in Parkinson’s disease patients who freeze
C.M. Tolleson, S.A. Wylie, O.C. Roman, S. Barton, M. Kubovy, D. Claassen (Nashville, TN, USA)

533 Fronto-striatal atrophy correlates of inhibitory dysfunction in Parkinson’s disease
C. O’Callaghan, S.L. Naismith, J.R. Hodges, S.J.G. Lewis, M. Hornberger (Sydney, Australia)

550 Principal component analysis of PiB distribution in Parkinson’s and Alzheimer’s diseases
M.C. Campbell, J. Markham, H. Flores, J.M. Hartlein, A.M. Goate, N.J. Cairns, T.O. Videen, J.S. Perlmutter (Saint Louis, MO, USA)

559 Functional MRI abnormalities on cognitive tasks in newly diagnosed PD patients- ICICLE-PD study

562 Mild cognitive impairment in Parkinson’s disease: Cut-off and responsiveness values of the Parkinson’s disease–cognitive rating scale (PD-CRS)
J. Pagonabarraga, R. Fernández de Bobadilla, S. Martinez-Horta, B. Pascual-Sedano, A. Campolongo, J. Kulisevsky (Barcelona, Spain)

GUIDED POSTER TOUR 10 – Genetics
Bayside Level 1, Bayside Gallery B
12:00 – 13:30
Wednesday, June 19, 2013
Tour Leaders:
Christine Klein, Luebeck, Germany
Daniel Healy, Dublin, Ireland

550 Paroxysmal kinesigenic dyskinesia and PRRT2 mutations: Clinico-genetic correlations

510 Phenotypic spectrum of mutations in GNAL: A novel cause of cranio-cervical dystonia

511 Clinical features of onset in monogenic Parkinson’s disease
A.E. Elia, J. Azzollini, C. Bagella, M. Careccio, C. Barzaghi, B. Garavaglia, A. Albanese (Milan, Italy)

513 SPG11 sequencing in worldwide populations of familial and sporadic spastic paraplegia patients reveals frequent mutations and the common association of parkinsonian features

514 Behavioral characteristics of asymptomatic G2019S mutation carriers of the LRRK2 gene

515 New insights into the genetics of X-linked dystonia-parkinsonism
A. Domingo, A. Westenberger, R. Rosales, R.D. Jamora, P.M. Pasco, K. Lohmann, L.V. Lee, C. Klein (Lübeck, Germany)

516 PRRT2 gene mutation analysis in Korean familial and sporadic patients with paroxysmal kinesigenic dyskinesia
J. Youn, J. Jeong, J.Y. Ahn, J.W. Cho (Seoul, Korea)

517 DDR3 receptor polymorphism may confer risk for younger onset Parkinson’s disease
A. Hassan, M.S. Okun, D.J. Serie, M.G. Heckman, J.E. Ahiskog, R.J. Uitti, Z. Wszolek, D.A. Ross (Rochester, MN, USA)

518 By Author

519 A novel heterozygous mutation in ATP synthase (electron transport chain complex V) subunit c gene ATP5G3 causes autosomal dominant dystonia and spastic paraplegia
D.L. Gilbert, N.D. Leslie, R.B. Hufnagel, D.E. Neilson (Cincinnati, OH, USA)
Guided Poster Tours

GUIDED POSTER TOUR 11 – Lewy body dementia and other dementias in movement disorders
Bayside Level 2, Bayside 201-203
12:00 – 13:30
Wednesday, June 19, 2013
Tour Leaders:
John Dalrymple-Alford, Christchurch, New Zealand
Glenda Halliday, Randwick, Australia

501 Meta-analysis: Donepezil in the treatment of cognitive impairment dementia in patients with Parkinson’s disease
E.A. Barcelon, L. Shiong Shiu, P.M.D. Pasco (Manila, Philippines)

1179 Metabolic impairments of brain in patients with probable dementia of Lewy bodies
Y. Yang, S. Kim (Seoul, Korea)

1180 Omi-mediated detoxification of α-synuclein-induced neurotoxicity in a drosophila model of Parkinson’s disease
M.M. Rahman, S. Akhter, M.S. Islam, H.J. Kim, S.T. Hong (Jeonju-si, Korea)

516 Cognitive impairment after deep brain stimulation: A follow-up study and influence of age
E. Herrera, S. González, R. Merino, R. Ribacoba, E. Suárez, F. Cuetos (Oviedo, Spain)

522 Cognitive function and postural instability in people with Parkinson’s disease
D. Xu, M. Cole, K. Mengersen, P. Silburn, G. Kerr (Brisbane, Australia)

525 Criteria for mild cognitive impairment in Parkinson’s disease: Applicability and validity
G.J. Geurtsen, B.A. Schmand, I. Litvan, J.G. Goldman, A.I. Tröster (Amsterdam, Netherlands)

528 Could depression confound performance on neuropsychological testing in Parkinson’s disease (PD) patients?

549 Pathological organization of resting-state functional brain networks in Parkinson’s disease: A longitudinal MEG graph theoretical analysis

558 Object / scene recognition in patients with Parkinson’s disease with and without visual hallucination
P. Maruque, F. Ory, L. Saint-Aubert, F. Remy, N. Bacon-Macé, M. Fabre-Thorpe, E.J. Barbeau, C. Brefel-Courbon (Toulouse, France)

568 The prevalence and nature of mild cognitive impairment in Parkinson’s disease (PD-MCI) identified using automated cognitive tests
K.A. Wesnes, D.J. Burn (Goring on Thames, United Kingdom)

GUIDED POSTER TOUR 12 – Surgical therapy of movement disorders other than Parkinson’s disease
Bayside Level 2, Bayside 204
12:00 – 13:30
Wednesday, June 19, 2013
Tour Leaders:
Joachim Krauss, Hannover, Germany
Elena Moro, Grenoble, France

1217 Withdrawn by Author

1224 Effect of spinal cord stimulation on gait with patients with PSP
T. Ichikawa, H. Oshima, Y. Fumimura, Y. Nishida (Ageo City, Japan)

1225 Influence of electrode position and outcome following deep brain stimulation surgery in the management of childhood primary and secondary dystonias

1228 A new procedure of selective denervation and myotomy for laterococcic cervical dystonia: Results in 66 cases
J. Liang, S. Ji, A. Ma (Wuhan, China)

1229 Long-term follow-up study for patients with primary generalized dystonia treated by bilateral pallidal stimulation
M. Sobstyl, M. Zabek, Z. Mossakowski (Warsaw, Poland)

1234 Long-term follow-up of GPI deep brain stimulation in generalized dystonia: Primary dystonia compared to cerebral palsy
L.M. Romito, G. Zorzi, M. Ciceri, E. Marras, A. Franzini, N. Nardocci, A. Albanese (Milan, Italy)

1235 Long-term follow up of chronic spinal cord stimulation in medically intractable orthostatic tremor

1242 Deep brain stimulation of the caudal zona incerta and the posterior subthalamic area in essential tremor, is there an optimal area for stimulation?
A. Fytagoridis, M. Åström, P. Blomstedt (Stockholm, Sweden)

1245 Causes of therapeutic failure of pallidal deep brain stimulation in primary dystonia

1247 Gammaknife thamamotomy for intractable tremors: Clinical outcome and correlations with neuroimaging features
T. Witjas, R. Carron, J.P. Azulay, J. Regis (Marseille, France)
GUIDED POSTER TOUR 13 – Huntington’s disease
Bayside Level 1, Bayside Gallery A
13:00 – 14:30
Thursday, June 20, 2013
Tour Leaders:
Elizabeth McCusker, Westmead, Australia
Ralf Reilmann, Muenster, Germany

751 Mutant huntingtin impair mitochondrial movement and trafficking in hippocampal neurons
B. Zhang, J. Tian, Y. Yan (Hangzhou, China)

754 Withdrawn by Author

756 Withdrawn by Author

757 FTY720 is neuroprotective in Huntington’s disease
V. Maglione, A. Di Pardo, E. Amico, M. Favellato, R. Castrataro, S. Fucile, F. Squitieri (Pozzilli, Italy)

758 Abnormal implicit prediction in rhythmical saccadic movement of manifest Huntington patients: A 12 months longitudinal study
E.A. Toh, M. MacAskill, J. Dalrymple-Alford, D. Myall, S. MacLeod, L. Livingston, T. Anderson (Christchurch, New Zealand)

764 Changes in cerebral vasculature in patients with Huntington’s disease
J. Drouin-Ouellet, I. Saint-Amour, W.L. Kuan, M. Saint-Pierre, R.A. Barker, F. Cicchetti (Cambridge, United Kingdom)

765 The pharmacokinetics of extended release SD-809, a deuterium-substituted analogue of tetrabenazine
D.A. Stamler, F. Brown, M. Bradbury (La Jolla, CA, USA)

767 Quantifying Huntington’s disease (HD) burden internationally

768 Potential neuroprotective effects of pridopidine in Huntington’s disease
A. DiPardo, V. Maglione, M.G. Favellato, E. Amico, F. Squitieri (Pozzilli, Italy)

769 Model-based meta-analysis (MBMA) of UHDRS-Total motor score in Huntington’s disease (HD) clinical trials
Y. Jin, S. Ahadieh, S. Papapetropoulos, J. Liu (Cambridge, MA, USA)

GUIDED POSTER TOUR 14 – Parkinson’s disease: Clinical trials
Bayside Level 1, Bayside Gallery B
13:00 – 14:30
Thursday, June 20, 2013
Tour Leaders:
Jeffrey Kordower, Chicago, IL, USA
Robert Hauser, Tampa, FL, USA

383 Withdrawn by Author

389 Efficacy of rasagiline 1mg/day on key motor symptoms of early Parkinson’s disease: Post-hoc analysis from the Attenuation of Disease progression with Azilect® Given Once-daily (ADAGIO) study
E. Tolosa (Barcelona, Spain)

395 Zonisamide improves wearing-off in Parkinson’s disease: A nation-wide randomized, double-blind study
M. Murata, K. Hasegawa, J. Fukasaka, K. Kochi, I. Kanazawa, T. The Japan Zonisamide on PD Study Group (Tokyo, Japan)

404 Malignant melanoma in early treated Parkinson’s disease: The NET-PD trial
R. Constantinescu, E.F. Augustine, P. Sharma, L. Khadim, K. Kieburtz (Rochester, NY, USA)

442 Exercise for falls prevention in Parkinson’s disease: A randomised controlled trial

444 A phase 2, placebo-controlled, randomized, double-blind trial of tozadenant (SYN-115) in patients with Parkinson’s disease with wearing-off fluctuations on levodopa
R.A. Hauser, C.W. Olanow, K. Kieburtz, A. Neale, C. Resburg, U. Maya, S. Bandak (Tampa, FL, USA)

446 A placebo controlled, randomized, double-blind study to assess the safety and clinical benefit of rasagiline as an add-on to dopamine agonist monotherapy in early Parkinson’s disease (PD): The ANDANTE study
R.A. Hauser, D. Silver, A. Choudhry, S. Isaacson (Tampa, FL, USA)

452 Constant therapeutic levodopa (LD) plasma concentrations maintained by continuous subcutaneous (SC) administration of ND-0612, a novel formulation of LD/carbidopa (CD)
Y. Caraco, S. Gren, P. LeWitt (Ness Ziona, Israel)

468 Impact of droxidopa treatment in patients with Parkinson’s disease and symptomatic neurogenic orthostatic hypotension (study 306)
S.H. Isaacson, R.A. Hauser, C.B.N. Szakacs, C.C. Ciuffi (Boca Raton, FL, USA)

499 Sustained-release carbidopa-levodopa (accordian pill) in patients with advanced Parkinson’s disease: Pharmacokinetic and clinical experience
Guided Poster Tours

**GUIDED POSTER TOUR 15 – Parkinson’s disease: Phenomenology**

Bayside Level 2, Bayside 201-203

13:00 – 14:30

Thursday, June 20, 2013

Tour Leaders:
Timothy Lynch, Dublin, Ireland
David Riley, South Euclid, OH, USA

860 Tract-based spatial statistics and voxel based analysis in Parkinson’s disease patients with freezing of gait
J. Youn, Y. Jeong, J.Y. Ahn, J.W. Cho (Seoul, Korea)

862 Ancillary investigations to diagnose Parkinson’s disease and atypical Parkinsonism: A prospective clinical study

866 Synergic and independent influences of MAPT and SNCA on the motor decline in Parkinson’s disease
G. Wang, S. Chen, Y. Wang, Q. Xiao, J. Liu, S. Chen, Y. Huang (Sydney, Australia)

878 Bedside test facilitates differentiation between PISA and scoliosis in PD patients
F. Gandor, D. Gruber, G. Ebersbach (Beelitz-Heilstätten, Germany)

880 A cluster analysis on newly diagnosed untreated PD patients
R. Erro, C. Vitale, M. Picillo, M. Amboni, P. Barone (Naples, Italy)

886 Is carrying the G2019S mutation in the leucine-rich repeat kinase 2 gene associated with a different rate of progression of Parkinson’s disease?
G. Yahalom, Y. Orlev, O.S. Cohen, R. Inzelberg, E. Kozlova, E. Friedman, U. Goldbourt, D. Haubenberger (Bethesda, MD, USA)

889 FBX07 mutation: Phenotypic variability from chorea to early-onset asymmetric parkinsonism within a family
A. Gunduz, A. Gündogdu Eken, K. Bilgüvar, M. Günel, A.N. Basak, H. Hanagasi, S. Ertan (Istanbul, Turkey)

890 Motor and cognitive features discriminate new fallers from non-fallers in an incident cohort of Parkinson’s disease
B. Galna, S. Lord, D. Mhiripiri, D. Burn, L. Rochester (Newcastle upon Tyne, United Kingdom)

904 Subthreshold depression and subjective cognitive complaints in Parkinson’s disease

**GUIDED POSTER TOUR 16 – Tremor**

Bayside Level 2, Bayside 204

13:00 – 14:30

Thursday, June 20, 2013

Tour Leaders:
Mark Edwards, London, United Kingdom
Barry Snow, Auckland, New Zealand

939 Sensitivity to change of the essential tremor rating assessment scale (TETRAS)
B. Voller, E. Lines, G. McCrossin, A. Artiles, S. Tinaz, C. Lungu, M. Hallett, D. Haubenberger (Bethesda, MD, USA)

941 Continuous home monitoring of essential tremor using motion sensors
D. Heldman, C. Pulliam, S. Eichenseer, C. Goetz, O. Waln, C. Hunter, J. Jankovic, D. Vaillancourt, J. Giuffrida (Cleveland, OH, USA)

947 Patients with scans without evidence of dopaminergic deficit (SWEDD) do not have Parkinson’s disease- A long term follow up study
A. Batla, M. Stamelou, K.P. Bhatia (London, United Kingdom)

948 Alcohol responsiveness in different tremor disorders
P. Schwingenschuh, M. Koegl-Wallner, U. Werner, C. Ghadery, T. Pendl, S. Seiler, K. Wenzel, R. Schmidt, P. Katschnig-Winter (Graz, Austria)

949 Lateralization of structural abnormalities in right cerebellum in essential tremor: An observation from voxel based morphometry study
K. Bhalsing, N. Upadhyay, R. Yadav, J. Saini, A. Gupta, P. Pal (Bangalore, India)

954 Movement disorders associated with chronic lymphocytic inflammation with pontine perivascular enhancement responsive to steroids (CLIPERS)
A.D. Ha, J.D. Parratt, S. Babu, S.D. Kim, N. Mahant, V.S.C. Fung (Westmead, Australia)

957 Diagnosing postural tremor using intermuscular coherence and cumulant analysis
A.M.M. van der Stouwe, L. Woudt, J.W. Elting, M.A.J. de Koning-Tijssen, N.M. Maurits (Groningen, Netherlands)

958 Spatiotemporal parameters from three-dimensional tremor analysis may help to differentiate essential tremor from parkinsonian tremor
C. Blahak, T. Sauer, M.E. Wolf, J.C. Wührle, M.G. Hennerici (Mannheim, Germany)

976 Tremor retraining as therapeutic strategy for patients with psychogenic tremor: A proof-of-concept study

978 Ataxia is common in patients with orthostatic tremor
D. Bhatti, C. Srikanth-Mysore, J. Bertoni, D. Torres-Russotto (Omaha, NE, USA)
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3 Depression among patients with X-linked dystonia Parkinsonism
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4 Basal ganglia circuit disturbances and symptomatology in primary focal dystonia (PFD)
B.D. Berman, M. Hallett (Aurora, CO, USA)

5 Cervical dystonia: Effectiveness of a standardized physical therapy program; study design and protocol of a single blind randomized controlled trial
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6 Dystonia DBS in Iran
M. Parvaresh-Rizi, M. Saadati, G. Shahidi, M. Saatian, M. Rohani (Tehran, Iran)

7 Generation and characterisation of mice rescuing the DYT1-knockout phenotype
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17 Long term efficacy and safety of botulinum toxin type A in cervical dystonia patients treated over 10 years
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18 Saccade-related modulation of beta oscillation in the human internal globus pallidus
A. Yugeta, W.D. Hutchison, R. Chen (Tokyo, Japan)

19 Sensory tricks (corrective maneuvers) in cervical dystonia
N. Patel, J. Hanfelt, L. Marsh, J. Jankovic. For the Dystonia Coalition Investigators (Houston, TX, USA)

20 Parieto-motor functional connectivity in primary adult-onset cervical dystonia
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25 Coherence of neuronal firing of the striatum and the entopeduncular nucleus with motor cortex oscillatory activity in the 6-OHDA rat model of Parkinson’s disease with levodopa-induced dyskinesia
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26 Cervical spine disease presenting with cervical dystonia
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27 Genome sequencing reveals a mutation in the TUBB4 gene as the cause of whispering dysphonia (DYT4 dystonia)

28 Genome-wide association of a locus on chromosome 17 with musician’s dystonia

29 First case of bilateral pallidal stimulation for DYT4 dystonia
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30 Deep brain stimulation for DYT3 dystonia: A case report
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88 Levodopa-responsive camptocormia in a patient without DRO mutation and a normal DaT scan: Report of an unusual case
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98 Deep brain stimulation for NBIA-related dystonia
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106 The substantia nigra in Parkinsonian disorders: A multimodal MRI assessment at 3T
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110 Loss of dopamine D2/3 receptor binding in patients with cervical dystonia
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111 Cortical regions related to apraxia in patients with corticobasal degeneration: [18F]FDG PET and MRI study
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112 Whole brain voxel based morphometry analysis in idiopathic Parkinson’s disease
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113 Gray matter atrophy in Parkinson’s disease: A voxel based morphometry study
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114 Left-lateralized pedunculopontine network connectivity in freezing of gait from Parkinson’s disease
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115 Alveolar echinococcosis mimicking multiple metastatic tumors: A case presentation
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116 Voxel-wise meta-analysis of gray matter anomalies in progressive supranuclear palsy using anatomic likelihood estimation
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117 BOLD imaging: Following neurodegeneration in movement disorders
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118 The hummingbird sign in patients with progressive supranuclear palsy
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119 Improved sequence learning with STN deep brain stimulation: Evidence for treatment-specific network modulation
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120 Freezing of gait in Parkinson’s disease: Imagery of brain activation by gait with 18F-FDG positron emission tomography coupled with anatomical and functional connectivity in magnetic resonance imaging
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121 Striatal dopaminergic dysfunction in LRRK2 mutations models the progression of sporadic Parkinson’s disease

122 Dopamine transporter changes in PD patients after rotigotine: Results from a SPECT study
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123 Voxel-wise meta-analysis of white matter abnormalities in progressive supranuclear palsy
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124 Reduced functional interaction in early-stage drug naive Parkinson’s disease: A resting-state fMRI study

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127 Anatomical correlates of cognitive function in early Parkinson’s disease patients
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128 Quantitative assessment of regional volume and iron in progressive supranuclear palsy and Parkinsonian variant multiple system atrophy
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129 Differences in gray matter atrophy between Parkinson’s disease motor; Possible role of GM as a mediator between motor and cognitive function
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130 Magnetic resonance Parkinsonism index - A diagnostic tool in progressive supranuclear palsy
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131 Is there a role for susceptibility-weighted MRI in the diagnosis of Parkinson’s disease in clinical practice?
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132 A novel treatment for Mal de Debarquement syndrome. A case study using transcranial direct current stimulation
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134 Validation of PET measures of midbrain uptake of VMAT2 \& DAT tracers for nigrostriatal neurons
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135 What does fMRI tell us about the beneficial effect of relaxation guided imagery in Parkinson’s disease?

136 Challenges in establishing reliability of transcranial sonography (TCS) of the substantia nigra (SN) in parkinsonism
M. Pondal, C. Marras, R. Walsh, T. Mestre, A.E. Lang (Toronto, ON, Canada)

137 Substantia nigra hyperechogenicity has no prognostic impact for the future clinical course of Parkinson’s disease
S. Behnke, M. Ortmann, A. Runkel, K. Fassbender, J. Spiegel (Homburg, Saar, Germany)

138 Progression of nigrostriatal projection functional loss through the striatum in Parkinson’s disease. A clinico-PET correlation
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139 Relation of striatal density of adenosine A2A receptors, dopamine transporter and dopamine D2 receptor with tremor at rest and rigidity in Parkinson’s disease

140 The decrease of NAA/Cr at substantia nigra and drawn lines in DTI-based tractography from substantia nigra to putamen in patients with Parkinson’s disease reflects the loss of dopaminergic neurons
K. Isonishi, K. Ito, F. Moriwaka, S. Kaneko, T. Kashiwaba (Sapporo, Japan)

141 Parakinesia brachialis oscitans: Report of four cases
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142 Diffusion weighted MR findings in the substantia nigra in Parkinson’s disease
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143 Physiopathology of freezing of gait (FOG) and falls in Parkinson’s disease (PD) patients treated with subthalamic (STN) deep brain stimulation (DBS)

144 Midbrain transcranial sonography in Chinese patients with Parkinson’s disease

145 Cardiac MIBG scintigraphy can predict prognosis of patients with Parkinson’s disease
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146 Activations of cerebellar ocular motor sites in congenital nystagmus
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147 Brain activation patterns during motor tasks in DYT11 dystonia mutation carriers (fMRI study)
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148 The degeneration of dopaminergic system in LRRK2 G2385R patients is distinct from idiopathic Parkinson’s disease patients- Evidences from 18F-DTBZ PET imaging

149 Muscle co-activity in hand movement: Comparing Parkinson’s disease patients to healthy subjects at behavioral and cerebral level
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150 Altered cortico-striatal functional connectivity in the premotor phase of leucine-rich repeat kinase 2 parkinsonism

151 Longitudinal deformation-based morphometry in parkinsonian variant of multiple system atrophy
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D. Jennings, A. Siderowf, M. Stern, S. Eberly, D. Oakes, M. Kennedy, PARS Investigators (New Haven, CT, USA)

153 Diffusion tensor imaging in late onset neurodegeneration with brain iron accumulation
S.G. Shah, H. Mehta, R. Fekete (Valhalla, NY, USA)

154 DaTSCAN™ (ioflupane I 123 injection) in diagnosis of early Parkinsonian syndromes (PS)
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155 123-i ioflupane SPECT measures of Parkinson’s disease progression in the Parkinson Progression Marker Initiative (PPMI) trial
J.P. Seibyl, D. Jennings, I.D. Grachev, C. Coffey, K.L. Marek (New Haven, CT, USA)

156 White matter atrophy in Parkinson patients with freezing of gait: A diffusion kurtsosis imaging study
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157 Differentiation of tremor disorders with fMRI: A novel quantitative approach
S. Sharifi, W. Mugge, F. Luft, A.C. Schouten, T.H. Heida, L.J. Bour, A.F. van Rootseelaar (Amsterdam, Netherlands)

158 Identifying tremor associated brain regions in essential tremor – An EMG-fMRI study
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159 Detection of intracellular iron using hyperspectral fluorescence imaging in a model of Parkinson’s disease
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160 Essential tremor has alterations in regional glucose metabolism and GABAergic system
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161 Examining expression of phosphodiesterase 10A (PDE10A) in Huntington’s disease using 18F-MNI-659 PET

162 White matter lesions and depression in patients with Parkinson’s disease
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163 Dopamine transporter (DaT) scan utilization in a movement disorder center: The Cleveland Clinic experience in the first 17 months
S. Oravivattanakul, L. Benchaya, S. Cooper, A. Ahmed, I. Itin, M. Gostkowski, J. Rudolph, H.H. Fernandez (Cleveland, OH, USA)

164 Striatal dopamine depletion and cortical dopamine receptor changes in Parkinson’s disease with mild cognitive impairment
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165 Therapeutic occupancy of the D2/3-prefering dopamine receptor agonist pramipexol in brains of patients with Parkinson’s disease (118F-fallypride PET study)
A. Deutschländ, K. Böttzel, C. La Fougeré, G. Xiong, G. Grünner, P. Cumming (Munich, Germany)

166 Correlation of dopamine transporter imaging with parkinsonian motor handicap
T. Stoijkovic, E. Stefanova, L. Brjakovic, V.S. Kostic (Belgrade, Serbia)

167 Subcortical gray matter volumes in Parkinson’s disease (PD) and their relationship to clinical measures
J. Hedeman, T. Krmpotich, E. Shelton, J. Tanabe, B.D. Berman (Aurora, CO, USA)

168 Psychogenic Parkinsonism: Does dopamine transporter imaging influence management?
C.C. Umeh, Z. Szabo, G.M. Pontone, Z. Mari (Baltimore, MD, USA)

169 Dopaminergic modulation of the resting-state sensori-motor network in drug-naive patients with Parkinson’s disease
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170 Uncertainty influences in obsessive-compulsive disorder

171 Functional MRI study on network abnormalities of cortical and subcortical gait control in Parkinson’s disease
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172 Therapy mediated speech motor processing investigated by MRI, fMRI and spectrogram
S. Gudwani, M. Behari, M. Saxena, S.S. Kumaran (New Delhi, India)

173 Initial human PET studies with [18F]PR04.MZ for quantification of striatal and extrastriatal dopamine transporters
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174 Neural correlates of levodopa-responsive vs. levodopa-resistant freezing of gait in Parkinson’s disease: A PET study
A. Maillet, S. Thobois, V. Fraix, P. Derost, B.R. Bloem, P. Krack, S. Chabardés, P. Pollak, B. Debû (Grenoble, France)

175 White matter hyperintensities in Parkinson’s disease: Do they explain the disparity between the postural instability gait difficulty and tremor dominant subtypes?
T. Herman, K. Rosenberg-Katz, Y. Jacob, E. Auriel, T. Gurevich, N. Giladi, J.M. Hausdorff (Tel Aviv, Israel)

176 Disentangling the neurophysiological bases of balance and gait in humans
M.U. Ferraye, B.R. Bloem, L. Heil, B. Debû, I. Toni (Nijenmegen, Netherlands)

177 Effect of long-term treatment with pramipexole or levodopa on [123I]FP-CIT SPECT in a bi-nigral 6-OHDA mouse model
C. Depboylu, L. Maurer, A. Matusch, V. Ries, M. Behe, W.H. Oertel, G.U. Höglung (Marburg, Germany)

178 Midbrain atrophy is not a biomarker of progressive supranuclear palsy pathology
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179 Pattern of regional cortical thickness reduction and its relation to cognitive profile in nondemented Parkinson’s disease patients
M. Blys, M. Inglese, S. Varanese, R. Theodorescu, L. Glodzik, F. Ghilardi, A. DiRocco (New York, NY, USA)

180 Machine learning performs differential individual diagnosis of PD and PSP by brain MRI studies
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183  High prevalence of gastroesophageal reflux disease in Parkinson’s disease: A questionnaire-based study
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184  The reliability of screening methods for dysphagia in patients with Parkinson’s disease
T. Yamamoto, C. Oda, M. Satoh, K. Nakayama, M. Murata (Tokyo, Japan)

185  Cardiac sympathetic nerve and its positive inotropic activity may play an important role in the prevention of orthostatic hypotension in Parkinson’s disease
T. Nakamura, M. Hirayama, H. Watanabe, G. Sobue (Nagoya City, Japan)

186  Cardiovascular autonomic failure in Parkinson’s disease with dementia
A. Fanciulli, J.P. Ndayisaba, S. Duerr, R. Granata, W. Poewe, G.K. Wenning (Innsbruck, Austria)

187  Failure to manage constipation in Parkinson’s disease. A review of medical services a patients perspective
J. Lawrence, T. Parmenter, T. McDonald (Sydney, Australia)

188  Pyridostigmine for treatment of orthostatic hypotension and nocturnal hypotension in patients with Parkinson’s disease (PD): Ambulatory 24-hour blood pressure monitoring
N. Kawashima, E. Horuchi, T. Yokoyama, K. Hasegawa (Fujisawa, Japan)

189  Preserved postganglionic sudomotor sympathetic nervous function in Parkinson’s disease: A comparison to cardiac sympathetic nervous function
T. Yamamoto, A. Miyake, T. Kimura, Y. Nakazato, N. Tamura, N. Araki (Moroyama-machi, Japan)

190  Peripheral neuropathy and autonomic dysfunction in patients with Parkinson’s disease and parkinsonism

191  Identification of the subgroups of nonmotor symptoms in Parkinson’s disease using cluster analysis
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192  Orthostatic hypotension: Non-motor symptom or something else?
E. Palazon-Garcia, E. Fernandez-Diaz, A.B. Perona, S. Garcia-Muñozguren (Albacete, Spain)

193  Efficacy of midodrine in orthostatic hypotension related to extrapyramidal disorders. A retrospective audit
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194  Pathophysiology underlying drooling in Parkinson’s disease: Bradykinesia of swallowing
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195  A cross-sectional survey on gastrointestinal dysfunctions in parkinsonism

196  Subthalamic deep brain stimulation can improve gastric emptying in Parkinson’s disease

197  Orthostatic autonomic dysfunction in idiopathic Parkinson’s disease, multiple system atrophy and progressive supranuclear palsy
V. Miletic, M. Relja (Zagreb, Croatia)

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198  Neuronal oscillation patterns in the subthalamic nucleus and the ventrolateral thalamus in patients with Parkinson’s disease
P. Zhuang, M. Hallett, L. He, S. Guo, Y. Zhang, J. Li, Y. Li (Beijing, China)

199  RR interval variation and the sympathetic skin response in the assessment of autonomic function in patients with Parkinson’s disease
H. Ulvi, L. Özel, R. Demir, G. Özdemir, R. Aygül (Erzurum, Turkey)

200  Neurophysiologic study of pain in Parkinson’s disease: A study with pain-related evoked potentials
M. Takeda, F. Okada, H. Tachibana, K. Kajiyama, H. Yoshikawa (Nishinomiya, Japan)

201  Characterization of firing patterns of striatal medium spiny neurons modulated by dopamine influx in parkinsonian monkeys
A. Singh, L.F. Potts, S.M. Papa (Atlanta, GA, USA)

202  Restoration of normal striatal dopamine responses with NMDA receptor antagonists in dyskinetic monkeys
A. Singh, L.F. Potts, K.J. Burke, S.M. Papa (Atlanta, GA, USA)

203  Dorsolateral subthalamic neuronal activities enhanced by median nerve stimulation facilitate Parkinson’s disease during deep brain stimulation in general anaesthesia
S.T. Tsai, W.Y. Chuang, C.C. Kuo, S.Y. Chen (Hualien, Taiwan)

204  Usefulness of microrecording in subthalamic deep brain stimulation for Parkinson’s disease
T. Mandat, M. Tutaj, H. Koziara, P. Nauman, W. Bonicki, R. Rola (Warszawa, Poland)

205  The subthalamic activity and striatal monoamine is modulated by subthalamic stimulation
T. Yamamoto, T. Uchiyama, R. Sakakibara, J. Taniguchi, S. Kuwabara (Chiba, Japan)

206  Diagnostic accuracy of morphological and functional retinal impairment in Parkinson’s disease

207  The relationship of STN neuronal discharge to symptom type and severity in Parkinson’s disease
J.A. Wilden, E.S. Ryapolova-Webb, N.B. Galifianakis, J.L. Ostrem, P.A. Starr (San Francisco, CA, USA)

208  Modulation of subthalamic discharges remedies locomotor deficits in a rat model of Parkinson’s disease
C.H. Tai, Y.C. Yang, M.K. Pan, C.C. Kuo (Taipei, Taiwan)

209  Cerebellar cTBS induced-effects on STDT in Parkinson’s disease
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211 Transplantation of dopamine neurons in hemiparkinsonian rats: Neuronal firing activity and gene expression changes in the subthalamic nucleus

212 Electrophysiological characteristics of motor cortex pyramidal neurons in a rat model of levodopa-induced dyskinesia
M. Tomiyama, T. Ueno, J. Yamada, H. Nishijima, Y. Funamizu, M. Baba, S. Ueno (Aomori, Japan)

213 Identifying EEG markers associated with anxiety in Parkinson’s disease: Late positive potential
N.N. Dissanayaka, T. Au, A. Angwin, D. Copland, J. O’Sullivan, G.J. Byrne, R. Marsh, G. Mellick, P.A. Silburn (Brisbane, Australia)

214 Oscillatory neuronal activity in the globus pallidus internus in parkinsonian patients and dystonia patients
B. Cui, P. Zhuang, M. Hallett, Y. Zhang, J. Li, Y. Li (Beijing, China)

215 Cervical and ocular vestibular myogenic potentials in early Parkinson’s disease
M. Pötter-Nerger, S. Govender, G. Deuschl, J. Volkman, J. Colebatch (Kiel, Germany)

216 Auditory startle reaction in Parkinson’s disease patients with and without freezing of gait
A. Gunduz, M.E. Kizilitan, G. Kizilitan, A. Tekeoglu, A. Sifoglu, B. Metin (Istanbul, Turkey)

217 Intrinsic rhythm of the primary motor cortex in Parkinson’s disease

218 Postural instability in early Parkinson’s disease: Evidence for early intervention with postural training
P. Panyakaew, C. Anan, R. Bhtayasari (Bangkok, Thailand)

219 Reduced cortical connectivity between dorsal premotor cortex and ipsilateral primary motor cortex in older adults
Z. Ni, R. Isayama, G. Castillo, C. Gunraj, R. Chen (Toronto, ON, Canada)

220 The impairment of vagus nerve function leads to elemental changes in dopaminergic structures of rat brains

221 Visual cortex activating studies using magnetoencephalography gram in Parkinson’s disease: Effect of aging and disease specificity
S. Goto, Y. Okada, M. Hoshiyama (Nagoya, Japan)

222 Somatosensory temporal discrimination in Parkinson’s disease
A. Karakus, A.B. Tokcaer (Ankara, Turkey)

223 Subthalamic nucleus stimulation in Parkinson’s disease restores cortical plasticity
K. Udupa, S.J. Kim, C. Gunraj, M. Hodaie, A.M. Lozano, A.E. Lang, R. Chen (Toronto, ON, Canada)

224 Cerebellar stimulation restores motor cortical plasticity in de novo Parkinson’s disease
T. Popa, F. Backer, S. Meunier, S. Pradeep, A. Balachandran, A. Kishore (Paris, France)

225 Differential therapeutical effects on medial and lateral vestibulospinal function in Parkinson’s disease
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226 Parkinson’s disease-non invasive treatment with H-coil: A safe approach with a promising effect

227 Difference in the modulation of quadripulse transcranial magnetic stimulation (QPS) effect between L-DOPA and zonisamide

228 Web-based databank for data management of patients with Parkinson’s disease treated with deep brain stimulation
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229 Is the human subthalamus the nucleus of risk taking? STN oscillations in parkinsonian patients with and without pathological gambling during economics risk decisions
G. Giannicola, A. Franzini, A. Albanese, D. Servello, M. Porta, M. Rosa, M. Fumagalli, E. Scelzo, A. Priori (Milan, Italy)

230 The P3a wave, a reliable marker of progression in early and middle stages of Parkinson’s disease
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232 Cortico-cortical connectivity in Parkinson’s disease and the influence of dopaminergic treatment
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233 Time course of subthalamic neuronal responses to contralateral subthalamic DBS
H. Huang, R.L. Watts, H.C. Walker, E.B. Montgomery, Jr. (Birmingham, AL, USA)

234 Apathy, depression and postural instability in Parkinson’s disease: Related to a common pathophysiology?

235 An electrophysiological study of the human pedunculopontine nucleus during imaginary gait
C. Karachi, M.L. Welt, S. Fernandes Vidal, E. Bardinet, D. Grabli, B. Lau (Paris, France)

236 Time-locked changes in single unit activity and local field potentials in the subthalamic nucleus during a grip force task in Parkinson’s patients
L.L. Imbach, C.R. Baumann, H. Baumann-Vogel, J. Herrmsdorfer, O. Sürüci, J. Sarrethim (Zürich, Switzerland)

237 Patterns of cortical basal ganglia synchrony in Parkinson’s disease
S. Ahn, S.E. Zauber, R.M. Worth, L. Rubchinsky (Indianapolis, IN, USA)

238 Dopamine does not restore pre-movement excitability of the motor cortex in Parkinson’s disease
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**243** Rimabotulinumtoxin B for the treatment of sialorrhea in Parkinson's disease  
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**244** Factors that contribute to postural instability in patients with idiopathic Parkinson’s disease: A systematic review  

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**246** Gender differences in anxiety and depression among the caregivers of patients with Parkinson’s disease  
K.S. Anand, R. Verma, S. Mina (New Delhi, India)

**247** Parkinson’s disease: The experience of exercise  
C.J. O’Brien, C.G. Canning, L. Clemson (Bruce, Australia)

**248** Use of visual and auditory cues in the freezing control in Parkinson’s disease  
P. Marano, M.R. Seminara, M. Marano (Catania, Italy)

**249** Gait improvement in 10 patients with Parkinson’s disease by feedback from a new portable auditory device with smartphone applications  
W.O. Contreras Lopez, J.A. Espinoza Martinez, C.A. Escalante Higuera (Freiburg im Breisgau, Germany)

**250** Osteoporosis and osteopenia in patients with Parkinson’s disease in Malaysian population: A case control study  
A.S. Mawardi, R. Abdul Ghafar, N.A. Kumaruddin, T. Hui Jan, W.N.N. Wan Yahya, N. Mohamed Ibrahim (Cheras, Malaysia)

**251** Move for change part I – A European survey evaluating the impact of the EPDA charter for people with Parkinson’s disease on their disease management and quality of life  
K.J. Onarheim, L. Graham, S. Lindvall (London, United Kingdom)

**252** Move for change part II – A European survey evaluating the impact of the EPDA charter for people with Parkinson’s disease on their disease management and quality of life  
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**253** Assessing the impact of self-reported disease severity and symptom burden on funds in members of an online Parkinson’s disease community  
E.P. Merikle, A.M. Gilligan, A.J. Espay, P. Wicks (North Chicago, IL, USA)

**254** Assessing the impact of self-reported disease stage and motor and non-motor symptom burden on health-related quality of life in Parkinson’s disease  
E.P. Merikle, A.M. Gilligan, A.J. Espay, P. Wicks (North Chicago, IL, USA)

**255** Wearable technology in freezing management of Parkinson’s disease: Literature review  
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**256** Incidence, prevalence and clinical pathway of Parkinson’s disease among Pakistani population  
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**257** A new physical therapy approach for Parkinson’s disease axial deformities: A pilot study  
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401  Changes in “On” time with levodopa-carbidopa intestinal gel infusion in advanced Parkinson’s disease patients with troublesome dyskinesia
A. Antonini, V.S.C. Fung, J.T. Boyd, J.T. Slevin, C. Hall, K.L. Widnell, K. Chatamra, J. Benesh (Venice, Italy)

402  Gastrointestinal safety of the levodopa-carbidopa intestinal gel delivery system in treating advanced Parkinson’s patients

403  Incidence of peripheral neuropathy in advanced Parkinson’s subjects treated with levodopa-carbidopa intestinal gel
R. Freeman, D. Cornblath, P. Anand, T. Müller, F. Klostermann, P. Ozid, K. Chatamra, W.Z. Robieson, K.L. Widnell, J. Benesh (Boston, MA, USA)

404  Malignant melanoma in early treated Parkinson’s disease: The NET-PD trial
R. Constantinescu, E.F. Augustine, P. Auinger, S. Sharma, L. Khadim, K. Kieburz (Rochester, NY, USA)

405  Randomized, double-blind, placebo-controlled trial of vitamin D supplement to prevent deterioration in Parkinson’s disease
M. Suzuki, M. Yoshioka, M. Hashimoto, M. Murakami, M. Noya, D. Takahashi, M. Urashima (Tokyo, Japan)

406  Effects of transcranial direct current stimulation on dual-task gait performance in patients with Parkinson’s disease
M.K.Y. Mak, L. Yu (Hong Kong, Hong Kong)

407  Effect of levodopa on depression in de novo patients with Parkinson’s disease
K. Kashihara, T. Imamura, M. Ohno (Okayama, Japan)

408  Diagnostic value of certain levels of microelements in the oral fluid of patients with Parkinson’s disease
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409  Novel levodopa product ODM-101 vs levodopa/carbidopa/entacapone in Parkinson’s disease with response fluctuations
T. Müller, M. Kuoppamäki, M. Vahteristo, V. Aho, J. Ellmén, C. Trenkwalder (Berlin, Germany)

410  The effects of weight on adverse event reporting in Parkinson’s disease patients treated with IPX066 extended-release carbidopa-levodopa capsules
S. Kell, M. O’Connell, A. Hsu, D. Silver, L. Elmer, S. Gupta (Hayward, CA, USA)

411  The effect of levodopa on posture in patients with Parkinson’s disease
F. Benninger, A. Khlebtovsky, E. Melamed, R. Djaldetti (Petah Tiqva, Israel)

412  Bowen therapy, a non-pharmacologic treatment for Parkinson’s disease
J. Rasco, K. Lee (Dunedin, New Zealand)

413  The ratio of STN/SN neuronal activity, a quantitative bio-marker for Parkinson’s disease progression
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414 The effects of gender on adverse event reporting in Parkinson’s disease patients treated with IPX066 extended-release carbidopa-levodopa capsules
S. Kell, M. O’Connell, A. Hsu, D. Silver, L. Elmer, S. Gupta (Hayward, CA, USA)

415 The effects of duration of exposure on adverse event reporting in Parkinson’s disease patients treated with IPX066 extended-release carbidopa-levodopa capsules
S. Kell, A. Hsu, M. O’Connell, T. Simuni, S. Gupta (Hayward, CA, USA)

416 Dose conversion to IPX066 in advanced Parkinson’s disease patients treated with carbidopa-levodopa-entacapone
A. Hsu, S. Khanna, S. Kell, A. Espay, R. Gil, C. Singer, S. Gupta (Hayward, CA, USA)

417 A rhythmical auditory cueing exercise programme to reduce falls and freezing of gait in PD: The Cued Up! Exercise programme
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418 Randomized treatment trial of rifampicin in MSA patients

419 Conventional physical therapy versus physical conditioning in patients with Parkinson’s disease
C.L. Correa, A. de O.M. de Jesus, V.L.S. de Britto (Rio de Janeiro, Brazil)

420 Progression of Parkinson’s disease and side of onset of motor symptoms
Y.O. Trufanov, Y.I. Golovchenko (Lugansk, Ukraine)

421 Analysing progressive micrographia in PD as a “motor sequence effect”
A. Seidl, S. Skodda, A. Hoffmann, P.H. Kraus (Bochum, Germany)

422 Safinamide is associated with clinically important improvement in motor symptoms in fluctuating PD patients as add-on to levodopa (SETTLE)
R. Anand, A.H.V. Schapira, R. Giuliani, V. Lucini (St. Moritz, Switzerland)

423 Comparison of once-daily versus twice-daily combination of pramipexole extended release in Parkinson’s disease
J.Y. Yun, H.J. Kim, Y.E. Kim, B.S. Jeon (Seoul, Korea)

424 Safinamide significantly improves responder rates in fluctuating Parkinson’s disease (PD) patients as add-on to levodopa (SETTLE)

425 Olfaction dysfunction in Parkinson’s disease (PD) and multiple system atrophy (MSA)
M. Behari, J. Mathew, A.K. Pandit, A. Pathak, G. Kumar, D. Vibha, A. Srivastav, G. Shukla, V. Goyal (New Delhi, India)

426 Usefulness of rapid switch from ergot dopamine agonists to pramipexole extended-release preparation in patients with Parkinson’s disease
H. Saiki, S. Matsumoto (Osaka, Japan)

427 Complementary and alternative medicine (CAM) in Indian Parkinson’s disease (PD) patients
A.K. Pandit, G. Kumar, D. Vibha, A. Srivastava, G. Shukla, V. Goyal, M. Behari (Delhi, India)

428 Olfactory dysfunction in sporadic Parkinson’s disease and LRRK2 PD
K.K. Johansen, B.J. Warø, J.O. Aasly (Trondheim, Norway)

429 Improving diagnostic accuracy in early Parkinson’s disease
P. Puhl, M. Hayes, C. Yiannikas, A. Aggarwal, G. Dunn, R. Russo (Concord, Australia)

430 Safety, tolerability and levodopa pharmacokinetics following intranasal administration of CVT-301, a levodopa dry powder aerosol, in healthy, adult subjects
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431 Effect of opicapone multiple-dose regimens on levodopa pharmacokinetics, motor response, and erythrocyte-COMT activity in Parkinson’s patients co-administered with levodopa/dopadecarboxylase inhibitor

432 Effect of opicapone and entacapone on levodopa pharmacokinetics when administered with immediate release 100/25 mg levodopa/carbidopa in healthy subjects
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433 Falls in Australians living with Parkinson’s disease: When, where and how?
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434 What are the best methods to prevent falls in Parkinson’s disease?
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435 Using telerehabilitation to deliver speech treatment to people with Parkinson’s disease in the home
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436 Differentiating Parkinson’s disease from multiple system atrophy by [123I] meta-iodobenzylguanidine myocardial scintigraphy and olfactory test
A. Kikuchi, T. Baba, T. Hasegawa, N. Sugeno, M. Konno, M. Aoki, A. Takeda (Sendai, Japan)

437 Evaluation of movement strategy training in Parkinson’s disease
M. Danoudis, M. Morris, J. McGinley, H. Menz, F. Huxham, J. Watts, A. Murphy, R. Iansek (Melbourne, Australia)

438 Study design of a double-blind, randomized, controlled trial (RCT) evaluating the effects of short pulsewidth in deep brain stimulation (DBS) of the subthalamic nucleus for Parkinson’s disease (CUSTOM-DBS)
S. Carcieri, Y. Zhao, N. Van Dyck, J. Volkman (Valencia, CA, USA)

439 Segmentation of sporadic and genetic Parkinson’s disease using low intervariability blood biomarker analysis
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440 Predictors of adherence to an exercise program in people with Parkinson’s disease

441 Stroke risk with arterial stiffness in idiopathic Parkinson’s disease
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442  Exercise for falls prevention in Parkinson’s disease: A randomised controlled trial

443  Randomized trial of extended release amantadine in Parkinson’s disease patients with levodopa-induced dyskinesia (EASED study)

444  A phase 2, placebo-controlled, randomized, double-blind trial of tozadentan (SYN-115) in patients with Parkinson’s disease with wearing-off fluctuations on levodopa
R.A. Hauser, C.W. Olanow, K. Kieburtz, A. Neale, C. Resburg, U. Maya, S. Bandak (Tampa, FL, USA)

445  Body weight support and treadmill for young and elderly subjects
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446  A placebo controlled, randomized, double-blind study to assess the safety and clinical benefit of rasagiline as an add-on to dopamine agonist monotherapy in early Parkinson’s disease (PD): The ANDANTE study
R.A. Hauser, D. Silver, A. Choudhry, S. Isaacscon (Tampa, FL, USA)

447  Risks of falls in Parkinson’s disease
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448  Medical marijuana (cannabis) treatment for motor and non-motor symptoms in Parkinson’s disease. An open-label observational study
I. Lotan, T. Treves, Y. Roditi, R. Djaldetti (Pethah Tiqva, Israel)

449  Leg muscle power training in Parkinson’s disease: A randomised controlled trial
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450  The heterogeneity of excessive daytime sleepiness in Parkinson’s disease
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451  Handedness and the rate of Parkinson’s disease progression
Y.O. Trufanov (Lugansk, Ukraine)

452  Constant therapeutic levodopa (LD) plasma concentrations maintained by continuous subcutaneous (SC) administration of ND-0612, a novel formulation of LD/carbidopa (CD)
Y. Caraco, S. Goren, P. LeWitt (Ness Ziona, Israel)

453  Single and multiple dose pharmacokinetics of a modified-release (MR) formulation of the mGlur5 antagonist mavoglurant (AFQ056) in healthy Japanese subjects
W. Honma, A. Yokoi, M. Ufer, C. Kenney, R. Woessner (East Hanover, NJ, USA)

454  Prediction of instability in people with Parkinson’s disease - Clinical balance and gait tests
B. Lindholm, O. Hansson, P. Hagell, M.H. Nilsson (Malmö, Sweden)

455  Future falls and/or near falls in people with Parkinson’s disease - The sensitivity and specificity of two retropulsion tests
B. Lindholm, O. Hansson, P. Hagell, W. Dzynskis, M.H. Nilsson (Malmö, Sweden)

456  Quantitative assessment of tongue pressure during swallowing in Parkinson’s disease (PD)
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457  The effect of plasma concentration of pepsinogens for the pharmacokinetics of levodopa
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458  Validation of a novel GaitReminder™ Apple iPod application to measure real-time stride data and control music play in a gait rehabilitation program for people with Parkinson’s disease
A.L. Cihal, C. Terry, L. Kallie, M. Nicole, H. Bin, Enrolment Services University of Calgary (Calgary, AB, Canada)

459  Diagnostic value of saliva biomarkers in PD?
G. Wünsch, A. Weishäupl, J. Volkman, F. Steigerwald (Würzburg, Germany)

460  The effects of galvanic vestibular stimulation on camptocormia in Parkinson’s disease: A case report

461  Rasagiline for the symptomatic treatment of fatigue in Parkinson’s disease: A 3-center, placebo-controlled, pilot study (the REST trial)

462  Effects of a community-based balance program on enhancing the balance performance in people with Parkinson’s disease
I.S.K. Wong-Yu, M.K.Y. Mak (Hong Kong SAR, China)

463  The effects of age and Parkinson’s disease on performance and learning of an environmentally valid implicit motor sequence task
H.A. Hayes, N. Hunsaker, L. Boyd, K.B. Foreman, R. Maletskey, P. Dyer, L.E. Dibble (Salt Lake City, UT, USA)

464  The Parkinson Progression Marker Initiative (PPMI) – Baseline PD, healthy, and SWEDD data
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465  Plasma apolipoprotein A1 (APOA1) as a biomarker for Parkinson’s disease

466  Carbidopa, entacapone and levodopa use in France in 2012 – START (STAlevoo®): Response to titration) survey initial phase results
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467  Comparison of different sites of injections of incobotulinumtoxin (XEOMIN®) into the major salivary glands in drooling
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468  Impact of droxidopa treatment in patients with Parkinson’s disease and symptomatic neurogenic orthostatic hypotension (study 306)
S.H. Isaacscon, R.A. Hauser, C.B.N. Szakacs, C.C. Cioffi (Boca Raton, FL, USA)

469  Long-term study of intraduodenal levodopa (Duodopa®) in Parkinson’s disease (PD)
V.S.C. Fung (Sydney, Australia)

470  Validation of a novel GaitReminder™ Apple iPod application to measure real-time stride data and control music play in a gait rehabilitation program for people with Parkinson’s disease
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479  Comparison of different sites of injections of incobotulinumtoxin (XEOMIN®) into the major salivary glands in drooling
G. Castelnovo, M. de Verdal, D. Renard, V. Boudoussq, L. Collombier (Nimes, France)

480  Impact of droxidopa treatment in patients with Parkinson’s disease and symptomatic neurogenic orthostatic hypotension (study 306)
S.H. Isaacscon, R.A. Hauser, C.B.N. Szakacs, C.C. Cioffi (Boca Raton, FL, USA)

481  Long-term study of intraduodenal levodopa (Duodopa®) in patients with advanced Parkinson’s disease
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470 Different treatment strategies using apomorphine pump therapy in parkinsonian patients and their influence on quality of life. 6 months observational study

471 Self-reported symptoms and motor tests via telemetry in a 36-month levodopa-carbidopa intestinal gel infusion trial
M. Memedi, D. Nyholm, A. Johansson, S. Pålhagen, T. Willows, H. Widner, J. Linder, J. Westin (Falun, Sweden)

472 Real-time fMRI neurofeedback for the treatment of Parkinson’s disease (PD)
L. Subramanian, D. Turner, H. Morris, M. Busse, D. Linden (Cardiff, United Kingdom)

473 Proposal of a new approach for postural deformities in Parkinson’s disease with one innovative proproceptive orthosis (PD Elasticare)
D. Volpe, M. Pilleri, E. Pelosi, G.M. Gianti, C. Filippetto, G. Abbuzzese, A. Antonini (Venice, Italy)

474 A phase I study of intranasal glutathione in Parkinson’s disease
L.K. Mischley, L.J. Standish, J.B. Leverenz, A. Samii (Kenmore, WA, USA)

475 A randomized controlled feasibility trial to determine the effectiveness of Irish set dancing for people with Parkinson’s disease
D. Volpe, A. Zanin, A. Clifford, J. Shahannan, M.E. Morris (Venice, Italy)

476 Minimal clinically important changes in UPDRS scores in early PD in rotigotine clinical trials
R. Hauser, E. Surmann, Z. Rubin, J. Jankovic (Tampa, FL, USA)

477 Antipsychotic efficacy and motor tolerability in a phase III placebo-controlled study of pimavanserin in patients with Parkinson’s disease psychosis (ACP-103-020)
J. Cummings, S. Isaacson, R. Mills, H. Williams, K. Chi-Burris, D. Bahr, R. Dhall, C. Ballard (Boca Raton, FL, USA)

478 Methods for imputing missing data for Parkinson’s disease clinical trials with multiple correlated outcomes
S. Luo, B. He, J. Elm, B. Tilley (Houston, TX, USA)

479 The lessebo effect in Parkinson’s disease
T.A. Mestre, P.S. Shah, C. Marras, A.E. Lang (Toronto, ON, Canada)

480 Possible effects of non-immersive virtual reality in upper extremities in a patient with Parkinson’s disease: A single case report
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481 Impact of pramipexole treatment on falls and fall related injuries in patients with Parkinson’s disease and symptomatic neurogenic orthostatic hypotension (study 306)
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482 Parkinson’s disease lesion effect and melanoma treatment response with ipilimumab and whole brain radiation
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483 Hypomethylation of SNCA in blood of patients with sporadic Parkinson’s disease
J. Guo, S. Ai, Q. Xu, X. Yan, B. Tang (Changsha, China)

484 The addition of a concurrent task changes postural reactions in individuals with Parkinson’s disease

485 Feasibility and efficacy of a 16-week SpeedFlex exercise therapy program in patients with Parkinson’s disease
M.D. Hughes, J.L. Trilk, R.B. Smith, C.V. Skahen (Greenville, SC, USA)

486 VANTAGE trial: A prospective, multi-center trial evaluating deep brain stimulation with a new multiple-source, constant-current rechargeable system (Vercise™) in Parkinson’s disease
L. Timmermann, R. Jain, Y. Zhao, T. Brücke, F. Seijo, E.S. San Martin, C. Haegelen, M. Verin, M. Maaroul, M.T. Barbe, S. Gill, A. Whone, M. Porta, D. Serrvello, F. Alesch (Cologne, Germany)

487 Safety and efficacy of recombinant human platelet derived growth factor BB (rhPDGF-BB) in Parkinson’s disease

488 Treatment of axial dystonia in Parkinson’s disease by botulinum toxin
J.P. Azulay, F. Fluchere, S. Soulayrol, H. Somma, T. Witjas, A. Eusebio (Marseille, France)

489 Role of levodopa in progression of Parkinson’s disease
S.P. Roy, R.S. Jain (Jaipur, India)

490 Towards the automated detection of near falls during community ambulation in patients with Parkinson’s disease
T. Freedman, E. Gazi, M. Brozgol, N. Giladi, A. Mirelman, J.M. Hausdorff (Tel Aviv, Israel)

491 Quantitative motor (Q-Motor) deficits in tapping (digitomotography) distinguish Parkinson’s disease from control subjects and correlate to the UPDRS III - A step towards objective outcomes for motor deficits in clinical trials?
R. Reilmann, M. Ellerbrock, C. Sass, T. Heger, D. Berg, W. Maetzer (Muenster, Germany)

492 Assessment of the clinical progression of Parkinson’s disease
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493 An open-label study on switching therapy from pramipexole or ropinirole to rotigotine transdermal system in subjects with advanced-stage, idiopathic Parkinson’s disease
J.M. Kim, S.J. Chung, J.W. Kim, B.S. Jeon, L. Bauer, S. Thierfelder, Asia Pacific Rotigotine Study Group (Seongnam-Si, Korea)

494 A phase II, double blind, randomized placebo-controlled 4-way crossover study to evaluate the relative efficacy and safety of OC oral solution (oxybutynin and clonidine) for Siberobhe in patients with Parkinson’s disease
A.L. Ellenbogen, K.M. Bardin, C.T. Chang, P. Chen (Farmington Hills, MI, USA)

495 Relationship between serum urate and clinical and imaging markers in Parkinson’s disease: PPMI baseline data
R. Constantinescu, D. Jennings, E.D. Foster, C.S. Coffey, K. Marek, Parkinson’s Progression Marker Initiative (Rochester, NY, USA)

496 Safety and efficacy of exercise on symptoms, quality of life, drug interactions, fall frequency and prognosis of Parkinson’s disease: A systematic review of the literature
M. Shapoval, H. Fritz, C. Habib, C. Knee, D. Seely, K. Cooley (Toronto, ON, Canada)
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500 Use of the pill questionnaire to detect cognitive deficits and assess their impact on daily life in patients with Parkinson’s disease
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501 Meta analysis: Donepezil in the treatment of cognitive impairment dementia in patients with Parkinson’s disease
E.A. Barcelon, L. Shiong Shiu, P.M.D. Pasilla (Manila, Philippines)

502 Relationships between cognitive status, speech characteristics and communicative participation in Parkinson’s disease
M.S. Barnish, S.M.C. Horton, Z.R. Butterfint, K.H.O. Deane (Norwich, United Kingdom)

503 Relationships between cognitive status and speech, language and communication impairments in Parkinson’s disease: A systematic review
M.S. Barnish, S.M.C. Horton, Z.R. Butterfint, K.H.O. Deane (Norwich, United Kingdom)

504 STN DBS, not L-DOPA, restores the contextual regulation of simple decisions
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505 Characterising mild cognitive impairment in incident Parkinson’s disease: The ICICLE-PD study
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506 Is freezing of gait related to a specific attentional disorder in Parkinson’s disease?
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507 Motor and non-motor endophenotypes associated with cerebrospinal fluid and amyloid-β in Parkinson’s disease
R.M. Modreanu, M.J. Martí, A. Camara, M. Buongiorno, Y. Compta (Barcelona, Spain)

508 The relationship between small vessel disease (SVD), vascular risk factors (VRFs) and motor and cognitive impairment in Parkinson’s disease (PD): A clinicopathological study
R.S. Schwartz, G.M. Halliday, B.J. Cordate, J.J. Kril (Sydney, Australia)

509 A new paradigm in neuropsychological assessment: Motor imagery. A pilot study with Parkinson’s disease patients
E.V. Cores, A. Merino, S. Vanotti, S.A. Rodríguez-Quiroga, T. Arakaki, A. Villa, N.S. Garretto (Caba, Argentina)

510 Clinical value of brain perfusion SPECT between idiopathic Parkinson’s disease and Parkinson variant of multiple system atrophy
I.U. Song, J.S. Kim, K.S. Lee, Y.D. Kim, J.W. Park (Seoul, Korea)

511 Effect of COMT-inhibitor on Parkinson’s disease associated with dementia
J.W. Park, K.S. Lee, I.U. Song, J.S. Kim, Y.D. Kim (Seoul, Korea)

512 The neuropsychological domain differences between Parkinson’s disease patients with and without mild cognitive impairments; a longitudinal investigation
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513 Is mild cognitive impairment in Parkinson’s disease predictive for further cognitive decline after deep brain stimulation?
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514 Freezing of gait in Parkinson’s disease is related to impaired set-shifting during stepping
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515 Frontal hyperperfusion in aged, non-demented patients with Parkinson’s disease
J.W. Kim, J.Y. Jeong, S.M. Cheon (Busan, Korea)

516 Cognitive impairment after deep brain stimulation: A follow-up study and influence of age
E. Herrera, S. González, R. Merino, R. Ribacoba, E. Suárez, F. Cueto (Oviedo, Spain)

517 Withdrawn by Author

518 Impulsive behavior and fall risk in Parkinson’s disease
K. Smulders, R.A. Esselinink, B.R. Bloem, R. Cools (Nijmegen, Netherlands)

519 Evaluation of driving ability in patients with Parkinson’s disease using a driving simulator
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520 Visuomotor deficits in Parkinson’s disease
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521 Apnea-hypopnea index and supine apnea-hypopnea index could be indicator for severity of cognition impairment in Parkinson’s disease with cognitive impairment: Retrospective pilot study
C.K. Ha, J.Y. Choi, E.K. Bae (Incheon, Korea)

522 Cognitive function and postural instability in people with Parkinson’s disease
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523 Defective visual perception in patients with Parkinson’s disease: The impairment of preattentive visual processing in the normal intellectual patients
Y. Higashi, M. Tabata, H. Kamada, E. Mori (Himeji, Japan)

524 Apathy in Parkinson’s disease results from our objective apathy scale
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525 Criteria for mild cognitive impairment in Parkinson’s disease: Applicability and validity
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527 Which executive functions most affect gait in Parkinson’s disease?

528 Could depression confound performance on neuropsychological testing in Parkinson’s disease (PD) patients?

529 Effects of istradefylline on cognitive performance in prefrontal cortex lesioned rats
T. Kadowaki Horita, M. Kobayashi, A. Mori, P. Jenner, T. Kanda (Shizuoka, Japan)

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C.M. Tolleson, S.A. Wylie, O.C. Roman, S. Barton, M. Kubovy, D. Claassen (Nashville, TN, USA)

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B. Tserensodnom, K. Baatar (Ulaanbaatar, Mongolia)

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B.R. Barton, L. Cao, C.G. Goetz, K.T. Stroupe, F.M. Weaver (Chicago, IL, USA)

536 The association of cognitive impairment and cerebro white matter lesion in Parkinson’s disease
R. Hayashi, T. Oeda, A. Umemura, M. Kousaka, S. Tomita, K. Yamamoto, H. Sawada (Kyoto, Japan)

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M. Amboni, A. Tessitore, G. Santangelo, M. Picillo, F. Esposito, C. Vitale, A. Giordano, R. De Micco, G. Tedeschi, P. Barone (Naples, Italy)

538 Cortical and subcortical brain atrophy in Parkinson’s disease with visual hallucination

539 Visual hallucinations and motor phenotype in Parkinson’s disease: Evidences from a case control study
L. Kiferle, G. Martina, G. Palermo, C. Del Gamba, U. Bonuccelli, R. Ceravolo (Pisa, Italy)

540 Stereopsis deficits as a predictor of cognitive decline in Parkinson’s disease
S.B. Koh, M. Kim, H.M. Lee, J.W. Jang, S.M. Lee (Seoul, Korea)

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J.S. Lou, D. Dimitrova, K.A. Chung, S.B. Andrea, J. Nutt (Portland, OR, USA)

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L. Granholm, T. Turner, H. Boger, V. Hinson (Charleston, SC, USA)

543 Dissociable effects of subthalamic nucleus stimulation on auditory working memory performance in Parkinson’s disease
C. Camalier, J. Neimat, A. Wang, L. Gilling-McIntosh, C. Cochran (Nashville, TN, USA)

544 Non-motor symptoms in Parkinson’s disease with mild cognitive impairment
S. Diab, V. Latreille, P. Brayet, R. Postuma, J.A. Bertrand, C. Desjardins, I. Rouleau, J.F. Gagnon (Montreal, QC, Canada)

545 Cognitive performance and psychiatric symptoms in early, untreated Parkinson’s disease: Results from the PPMI study

546 Potential role of nutritional supplements for the treatment of memory impairment in parkinsonisms: An update
G. Pezzoli, E. Cassani, G. Pusani, E. Cereda, L. Iorio, R. Cilia, M. Barichella (Milan, Italy)

547 Cognitive function deficits are associated with mobility impairment in patients with Parkinson’s disease
T. Gurevich, A. Rosenz, A. Ezra, N. Giladi, J. Hausdorf (Tel Aviv, Israel)

548 PD-MCI and PDD after eight years in incident PD patients
B. Schmand, G. Geurtsen, M. Broeders, D.C. Velseboer, R.M. de Bie (Amsterdam, Netherlands)

549 Pathological organization of resting-state functional brain networks in Parkinson’s disease: A longitudinal MEG graph theoretical analysis

550 Principal component analysis of PIB distribution in Parkinson’s and Alzheimer’s diseases
M.C. Campbell, J. Markham, H. Flores, J.M. Hartlein, A.M. Goate, N.J. Cairns, T.O. Veen, J.S. Perlmutter (Saint Louis, MO, USA)

551 Alteration of three-dimensional vision in Parkinson’s disease
A. Pézerac, Cauquil, F. Dry-Magne, V. Jardiné, M. Rosito, C. Brefel-Courbon, S. Celebriti (Toulouse, France)

552 Influence of the relevant acoustic features on the recognition of emotional prosody following subthalamic nucleus deep brain stimulation in Parkinson’s disease
J. Périn, S. Cekic, C. Haegelen, P. Sauleau, D. Drapier, M. Vérin, D. Desjardins, I. Rouleau, J.F. Gagnon (Montreal, QC, Canada)

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566 Potential role of nutritional supplements for the treatment of memory impairment in parkinsonisms: An update
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555 Serial DTI and cognitive decline in Parkinson’s disease

556 Distinct clinical profile in rapid eye movement sleep behavior disorder patients with mild cognitive impairment
J.A. Bertrand, R.B. Postuma, D. Genier Marchand, C. Desjardins, J. Montplaisir, J.F. Gagnon (Montreal, QC, Canada)

557 Executive function and educational status interfere with functional balance and locomotion in individuals with Parkinson’s disease

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P. Maruque, F. Ory, L. Saint-Aubert, F. Remy, N. Bacon-Macé, M. Fabre-Thorpe, E.J. Barbeau, C. Brefel-Courbon (Toulouse, France)

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J.G. Goldman, G. Stebbins, V. Leung, B. Tilley, C.G. Goetz (Chicago, IL, USA)

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K.A. Wesnes, D.J. Burn (Goring on Thames, United Kingdom)

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B. Tran, A. Darin, G. Choi, J. Rick, A. Siderowf, D. Weintraub (Philadelphia, PA, USA)

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O.A. Trujillo, p. Lillo, M. Alvarado, D.L. Saez (Santiago, Chile)

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A. Petrelli, J. Kessler, M.T. Barbe, L. Timmermann, E. Kalbe (Vechta, Germany)

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576 Pharmaceutical quality of seven generic levodopa/benserazide products compared with original Madopar® / levodopa and benserazide
U. Gasser, A. Fischer, J. Timmermans, G. Vital-Durand, I. Arnet (Basle, Switzerland)

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G. Srivastava, A. Dixit, S. Yadav, D.K. Patel, O. Prakash, M.P. Singh (Lucknow, India)

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A. Dixit, G. Srivastava, D. Verma, M. Mishra, P.K. Singh, O. Prakash, M.P. Singh (Lucknow, India)

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J. Fleisher, N. Lipitz, N. Dahodwala (Philadelphia, PA, USA)

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J. Mishra, N. Sharma, A. Kumar (Chandigarh, India)

581 Puerarin protect dopamine neurons by inhibiting oxidative stress in rotenone-based models for Parkinson’s disease
N. Xiong, X. Zhang, J. Xiong, L. Liu, J. Yang, G. Zhang, J. Huang, T. Wang (Wuhan, China)
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582  Fenopropathin causes degeneration and protein aggregation in SH-SY5Y cells
N. Xiong, J. Xiong, L. Liu, J. Yang, X. Zhang, J. Huang, T. Wang
(Wuhan, China)

583  Less and well known side effects of dopamine agonists in Parkinson’s disease: Comparison of ropinirole and pramipexole
Y. Seçil, G. Eryasar, T.K. Incesu (İzmir, Turkey)

584  Early use of amantadine to prevent or delay onset of levodopa-induced dyskinesia in Parkinson’s disease
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586  Scoring by patients, caregivers and physicians shows the benefit of tolcapone on non motor symptoms in Parkinson’s disease: The TANIMOS study
T. Müller (Berlin, Germany)

587  Inosine inhibited the neurotoxicity of MPTP on the dopaminergic neurons

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M.H. Strothjohann, S.A. Fuchs (Bad Camberg, Germany)

589  Performance of a task learned when “on” deteriorates when subsequently practiced in “off” state
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590  Are branded and generic extended-release ropinirole formulations equally efficacious? A rater-blinded, switch-over, multicenter study

591  A nonhuman primate Parkinson model that recapitulates major motor and cognitive aspects of Parkinson’s disease
J. Schneider, Q. Li, J. Yang, E. Pioli, A. Crossman, E. Bezard (Philadelphia, PA, USA)

592  Effects of istradefylline alone and in combination with levodopa on motor and cognitive function in a non-human primate Parkinson model
J. Schneider, Q. Li, J. Yang, E. Pioli, A. Crossman, E. Bezard (Philadelphia, PA, USA)

593  Chronic treatment with MPEP, an mGlu5 receptor antagonist, normalizes basal ganglia glutamate neurotransmission in L-DOPA-treated parkinsonian monkeys
N. Norin, M. Morissette, L. Grégoire, B. Gomez-Mancilla, F. Gasparini, T. Di Paolo (Quebec, QC, Canada)

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L.M. Smith, E.J. Duncan, L.C. Parr-Brownlie, M.A. Black, P.K. Dearden, J.N.J. Reynolds (Dunedin, New Zealand)

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597  Elevated homocysteine by levodopa is detrimental to neurogenesis in parkinsonian model

598  Audit on patients with idiopathic Parkinson’s disease attending the university neurology clinic (UNC), Teaching Hospital Galle, Sri Lanka
D.A.J. Chandrika, K.D. Pathirana (Galle, Sri Lanka)

599  Benefit, compliance and side effects of anti-Parkinson medication in Sri Lankan patients with idiopathic Parkinson’s disease
K.D. Pathirana, J. Chandrika (Galle, Sri Lanka)

600  Investigating the neuroprotective effects of valproate, an epigenetic histone deacetylase inhibitor, in Parkinson’s disease using preclinical magnetic resonance imaging
I.F. Harrison, D.T. Dexter (London, United Kingdom)

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602  The effectiveness of pramipexole and ropinirole in early and advanced Parkinson’s disease and comparison of the results with each other
M. Yaman, F. Karakaya, I. Ceviz, S. Öztürk, Ö.Y. Küsbeci (Afyonkarahisar, Turkey)

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S. Perez-Lloret, M.V. Rey, J.L. Monstastruc, O. Rascal (Toulouse, France)

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H. Miwa, I. Nakanishi, H. Ishiguchi, K.I. Wada, Y. Machida, N. Hattori (Tokyo, Japan)

605  European multicentre study of tolerability and impulse control disorders with short and extended release dopamine agonists in real life PD

606  Parkinson’s disease treatment in Africa: The importance of the levodopa content of legumes
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607 The synthetic opioid nalbuphine reduces L-dopa-induced dyskinesia in non-human primates
L. F. Potts, A. Greven, B. L. Dyavir Shetty, J. S. Whithhear, S. P. Braithwaite, M. Voronkov, S. M. Papa, M. M. Mouradian (Atlanta, GA, USA)

608 Exploration of curcumin analogues as inhibitors of $\alpha$-synuclein aggregation for treatment of Parkinson’s disease (PD) – A preliminary report
N. Ahsan, S. Mishra, A. Surolia, S. Gupta (New Delhi, India)

609 Vitamin D deficiency: As a role for Parkinson’s disease (PD) or as an outcome of PD?
A. P. Tanhaei, M. Izady, A. Chitsaz, R. Meamar (Isfahan, Iran)

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J. Zhou, H. Zhang, Y. Huang, G. Hatliday, X. Wang (Beijing, China)

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S. Mazzucchi, D. Frosini, E. Unti, E. Del Prete, C. Del Gamba, U. Bonuccelli, R. Ceravolo (Pisa, Italy)

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M. Tremblay, J. G. Hosking, C. A. Winstanley (Vancouver, BC, Canada)

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621 Sleep disturbance in patients with Parkinson’s disease presenting with leg motor restlessness
T. Shimohata, M. Nishizawa (Niigata, Japan)

622 Characteristics of obstructive sleep apnea in patients with Parkinson’s disease
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624 Plasma urate in REM sleep behavior disorder

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S. P. Joy, P. K. Pal, S. Sinha, A. B. Taly, M. Philip (Bangalore, India)

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S. J. Bolitho, S. L. Naismith, S. J. Lewis (Sydney, Australia)

627 The association of sleep quality with mood symptoms in PD patients with RLS – A case control study
A. Q. Rana, Y. Mujawaz, M. A. Rana (Toronto, ON, Canada)

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G. Ehm, Y. E. Kim, B. S. Jeon, J. Y. Jung, J. Y. Kim (Seoul, Korea)

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Y. E. Kim, B. S. Jeon, H. Park, J. Y. Jung, H. J. Kim (Seoul, Korea)

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K. P. Xiong, Y. Gong, Y. Shen, Q. Tang, J. M. Xu, J. Cheng, C. F. Liu (Suzhou, China)

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S. Sinha (Allahabad, India)

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A. Videnovic, C. Noble, L. Wolf, A. Marconi, P. Zee (Chicago, IL, USA)

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P. O. Valko, S. Hauser, M. Sommerauer, E. Werth, C. R. Baumann (Zurich, Switzerland)

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R. Mills, D. Bahr, K. Chi-Burris, H. Williams (San Diego, CA, USA)
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641 Assessment of non motor symptoms of Parkinson’s disease in Cuba
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643 Circadian expression profile of clock genes in early Parkinson’s disease patients

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A.I. Sarwar, O. Sarwar, M. Hirshkowitz (Houston, TX, USA)

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650 A tale of two restless sisters
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658 Botulinum toxin for ocular tic disorders
G. Yahalom, A. Faust-Socher, H. Straus, Y. Orlev, E. Kozlova, S. Hassin-Baer, O.S. Cohen (Tel-Hashomer, Israel)

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D. Bhatti, V.K.S. Balasetti, E.T. Rush, D. Torres-Russotto (Omaha, NE, USA)

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V. Sajin (Chisinau, Moldova)

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D.G. Lichter, S.G. Finnegan (Buffalo, NY, USA)

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S. Valeria, C. Cristina, P. Gabriela, M. Ion, O. Stela (Chisinau, Moldova)

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C. Cristina, S. Valeria, M. Ion, P. Gabriela, O. Stela (Chisinau, Moldova)

664 Complementary therapies in hemifacial spasm and comparison with other movement disorders
P. Ratnagopal, T. Peeraully, S. Nameek, K. Hussein, P. Woon, S. Fook-Chong, E.K. Tan (Singapore, Singapore)

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666 Variant ataxia-telangiectasia in Mennonites and neuromuscular presentations
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    B. Topcuiler, A. Yabalak, A. Kaymaz, A. Altinkaya, B. Alunrende, E. Altundag, G. Akman Demir (Istanbul, Turkey)

30. Davunetide for PSP: Results of the AL-108-231, phase 2/3, 52 week, randomized, double-blind, placebo-controlled clinical trial

31. How fast can PSP progress?
    M.J. Armstrong, R. Castellani, S.G. Reich (Baltimote, MD, USA)

32. Motor neuron disease pathology presenting as progressive supranuclear palsy
    D.W. Dickson (Jacksonville, FL, USA)

33. Gait initiation failure in patients with progressive supranuclear palsy
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34. Progression of autonomic failure in multiple system atrophy: An analysis of the EMSA-SG natural history study cohort
    F. Krismer, S. Duerr, K. Seppi, S. Boesch, W. Poewe, G.K. Wenning, on behalf of EMSA-SG (Innsbruck, Austria)
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835 To evaluate the impact of Parkinson’s disease on quality of life (QOL)
D. Joshi, P. Chatterjee, V.N. Mishra, R.N. Chaurasia, A.Z. Ansari, B. Kumar, A. Kumar, V. Nandmeyer (Varanasi, India)

836 Vascular Parkinsonism in a tertiary care stroke prevention clinic: Prevalence and development of a new screening questionnaire
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G. Arabia, A. Cerasa, M. Morelli, A. Quattrone (Catanzaro, Italy)

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H. Sereg, F. Baig, B. Gran (Nottingham, United Kingdom)

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R. Mazzucchelli, L. Terzuli, L. Martelli, D. Cioncoloni, B. Marco (Siena, Italy)

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C. Siri, A. Colombo, G. Pezzoli, R. Cilia (Milan, Italy)

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848 Cognitive impairment as another possible cause of scan without evidence of dopaminergic deficit (SWEDD) patients
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850 Attention modulation in parkinsonian freezers: Consequences for step initiation postural adjustments
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851 Detecting freezing of gait and falls using motion recorder and home video in Parkinson’s disease patients during everyday activities
Y. Okuma, H. Mitoma, M. Yoneyama (Izunokuni, Japan)

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B. Zhang, Q. Lv, J. Pu, X. Lei, Y. Mao (Hangzhou, China)

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888 Risk factors for levodopa-induced dyskinesia in Serbian Parkinson’s disease patients
V. Markovic, G. Djuric, T. Pekmezovic, V. Kostic, M. Svetel (Belgrade, Serbia)

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A. Gunduz, A. Gundogdu Eken, K. Bilgigür, M. Günel, A.N. Basak, H. Hanagasi, S. Ertan (Istanbul, Turkey)

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B. Galna, S. Lord, D. Mhiripiri, D. Burn, L. Rochester (Newcastle upon Tyne, United Kingdom)

891 Abnormal posture in Parkinson’s disease patients compared with the general population
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M. Rohani, N. Jalali, M. Khademolhosseini, S. Miri, G.A. Shahidi, S. Ghourchian (Tehran, Iran)

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R. Constantinescu, S. Mondello, L. Khadim, A. Jeromin (Rotterdam, NY, USA)

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J. Mokaya, J. Hooker (Nairobi, Kenya)

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K.P. Bhatia, U. Sheerin, M. Stamelou (London, United Kingdom)

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900 Application of an instrumented 3-day activity monitor to evaluate Parkinson disease clinical subtypes
T. Herman, A. Weiss, B. Marina, N. Giladi, J.M. Hausdorff (Tel-Aviv, Israel)

901 Assessing fall risk in patients with Parkinson’s disease using an instrumented 3-day activity monitor
A. Weiss, T. Herman, N. Giladi, J.M. Hausdorff (Tel-Aviv, Israel)

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J.J. Vaamonde, R.R. Ibáñez, J.P.J.P. Cabello, M.J.M.J. Gargallo (Ciudad Real, Spain)

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904 Subthreshold depression and subjective cognitive complaints in Parkinson’s disease

905 Paradoxical freezing as a side effect of levodopa
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906 A prospective evaluation of anterocollis in two patients with Parkinson’s disease
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907 Motor and non-motor disorders in Parkinsonian patients with LRRK2 mutations
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910 Parkinson’s disease progression beyond 20 years

911 Dopa-responsive parkinsonism dominated by gait disability with a delayed off response
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912 On the question of PANDAS...
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913 Contemporary encephalitis lethargica – An autoimmune entity

914 Chorea and ballismus after herpes simplex 1 encephalitis associated with NMDAR antibodies
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915 Different movement disorders of viral encephalitis patients who were admitted at a tertiary hospital from 2008–2012
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916 Managing spasticity in children with movement disorders – Is it NICE?
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917 Severe spasms,Rhabdomyolysis and limbic changes on MRI-dramatic improvement with intrathecal baclofen
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918 Kinematic deficits in children with hereditary spastic paraplegia
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919 Movement disorder in three Filipino adolescents with anti NMDA receptor encephalitis: A case series
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920 Outcome measures to quantify mobility in hereditary spastic paraplegia
B. Adair, C.M. Said, J. Rodda, M.E. Morris (Carlton, Australia)

921 Acute necrotizing encephalopathy of childhood: A rare fulminant neurological disease with acute movement disorders
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922 A longitudinal study of anthropometric effects of neuroleptics and stimulants in children with Tourette syndrome
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925 Acute movement disorders in children: Experience from a developing country
J.S. Goraya (Ludhiana, India)

926 DYT6 in an 11 year Filipino child: The first reported case in the Philippines
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927 Movement disorders in children with acute encephalitis admitted at a tertiary hospital from 2008-2012
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928 Evaluation of functional goal outcomes using the Canadian occupational performance measure (COPM) following deep brain stimulation (DBS) in childhood dystonia
H. Gimeno, K. Tustin, D. Lumsden, K. Ashkan, R. Selway, J.P. Lin (London, United Kingdom)

929 PRRT2 related paroxysmal kinesigenic dyskinesia (PKD)

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931 Hand stereotypies in Rett syndrome and autism – A preliminary comparative study using video motion analysis
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933 A new phenotypic presentation of DYT 16: Acute onset in infancy and association with strialt necrosis
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934 Accuracy of experts and novices in assessing gait in children with movement disorders
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935 Multiple CNS malformations in a child with fetal alcohol syndrome
M. Konstantin, Z. Olga (Moscow, Russia)

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D. Ghosh, H. Brar, D. Rothenr, G. Erenberg (Cleveland, OH, USA)

937 Pregnancy and obstetric complications disorders
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938 Clinical profile of dyskinetic. cerebral palsy in a children’s rehabilitation centre
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939 Sensitivity to change of the essential tremor rating assessment scale (TETRAS)
B. Voller, E. Lines, G. McCrossin, A. Artiles, S. Tinaz, C. Lungu, M. Hallett, B. Haubenberger (Bethesda, MD, USA)

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A.P. Vogel, H.J. McDermott, R. Peppard, C.M. McKay (Melbourne, Australia)

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D. Heldman, C. Pulliam, S. Eichenseer, C. Goetz, O. Waln, C. Hunter, J. Jankovic, D. Vaillancourt, J. Giuffrida (Cleveland, OH, USA)

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G. Boschetti, H.A. Teive, R.P. Munhoz, E. Cichaczewski, J.M. Maia, P. Nohama (Curitiba, Brazil)

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S. Petchrutchatachart, C. Thanawattano, C. Anan, R. Bhidayasiri (Bangkok, Thailand)

945 A dilemma of jaw tremor – Association with Parkinson’s disease and essential tremor syndrome
M.A. Rana, A.Q. Rana, Y. Mujawaz (Townsville, Australia)

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S.M. Lee, M.J. Kim, H.M. Lee, S.B. Koh (Seoul, Korea)

947 Patients with scans without evidence of dopaminergic deficit (SWEDD) do not have Parkinson’s disease- A long term follow up study
A. Batia, M. Stamelou, K.P. Bhatia (London, United Kingdom)

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P. Schwingenschuh, M. Koegl-Wallner, U. Werner, C. Ghadery, T. Wendl, S. Seiler, K. Wenzel, R. Schmidt, P. Katschnig-Winter (Graz, Austria)

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K. Bhalsing, N. Upadhyay, R. Yadav, J. Saini, A. Gupta, P. Pal (Bangalore, India)

950 Overrepresentation of hemifacial spasm in hospital referrals in a Turkish speaking Cypriot population- A preliminary report
S. Usar Incirli, F. Selçuk, C.M. Akbostanci (Nicosia, Cyprus)
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951 Classical FXTAS in mother and son
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952 Cerebellar volumetry in essential tremor: A comparison of according to presence of cerebellar signs

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N. Auzou, A. Foubert-Samier, S. Dupouy, W.G. Meissner (Pessac Cedex, France)

954 Movement disorders associated with chronic lymphocytic inflammation with pontine perivascular enhancement responsive to steroids (CLIPPERS)
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955 Task-specific tremor in string instrument players
A. Lee, M. Chadde, E. Schoonderwaldt, E. Polen (Hannover, Germany)

956 A novel treatment for essential tremor through transcutaneous neurostimulation
J.A. Gallego, J.M. Belda Lois, A. Castillo, J.P. Romero, J. Benito Leon, J.L. Pons, E. Rocon (Madrid, Spain)

957 Diagnosing postural tremor using intramuscular coherence and cumulant analysis
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958 Spatiotemporal parameters from three-dimensional tremor analysis may help to differentiate essential tremor from parkinsonian tremor
C. Blahak, T. Sauer, M.E. Wolf, J.C. Wöhrle, M.G. Hennerici (Mannheim, Germany)

959 A 7-year follow-up cohort study of substantia nigra echogenicity in patients with essential tremor
F.S. Sprenger, H. Stockner, K. Seppi, C. Scherfler, M. Sojer, C. Schmidauer, W. Poewe (Innsbruck, Austria)

960 High blood lead concentrations in essential tremor: A prevalence and monitoring study in Diyarbakir, Turkey
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962 Cervical tremor, resting tremor in the right hand and the right third nerve injury; an ipsilateral movement disorder?
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963 Clinical features and dopaminergic innervation in the patients with resting tremor confined in the upper or lower limb
D. Lee, I.K. Hong, T.B. Ahn (Seoul, Korea)

964 Lower extremity tremor on weight bearing in a patient with essential tremor contributing to gait instability
A. Konyukhov, M. Basha, E. Gaitour, E. George, N. Shneyder (Detroit, MI, USA)

965 Recurrent map: Complex system analysis approach toward spiral drawing for assessing fine motor movement in multiple sclerosis patients
J. Razjouyan, S. Gharinzadeh, A. Fallah, A.R. Azimi, M.A. Sahraian, M. Moghaddasi (Tehran, Iran)

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969 Bilateral configuration improves thalamic DBS outcome for essential tremor: Clinical observations and correlation with volume of tissue activation
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980 A case of Wilson’s disease with lid-opening apraxia treated with butyrolum toxin
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981 Wilson’s disease in southern Brazil: Genotype-phenotype correlations and description of two novel mutations in ATP7B gene

982 Alterations of cortical excitability and central motor conduction time in patients with Wilson’s disease
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993  A case of idiopathic chronic hypoparathyroidism presenting as paroxysmal non kinesigenic dyskinesia- A case report
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994  To study MRI brain findings in neurological Wilson’s disease
N. Kumar, D. Joshi (Patna, India)

995  Levodopa-responsive Parkinsonism and small fiber dysfunction in patients with Wilson’s disease
F.A. Gondim, D.F. Araújo, I.S. Oliveira, A.P. Melo, L.C. Alves, I.T. Araújo, O.C. Vale (Fortaleza, Brazil)

996  Positive filipin staining in patients with progressive supranuclear palsy: Expanding the phenotypic spectrum of Niemann-Pick disease type C?

997  Drug induced movement disorders -Pathophysiology, diagnosis and management
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998  Lithium induced lingual dystonia: An interesting case report
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999  Current clinical conditions of stiff-person syndrome in China, a national survey
N. Xiong, J. Yang, L. Liu, J. Xiong, X. Zhang, G. Zhang, J. Huang, T. Wang (Wuhan, China)

1000  Hepatic myopathy as a variant subtype of acquired hepatocerebral degeneration?
M.H. Chang (Taiching, Taiwan)

1001  A family with pure hereditary spastic paraplegia (HSP) due to a de-novo mutation in the NIPA1 gene
D. Arkadir, J.S. Goldman, R.N. Alcalay (New York, NY, USA)

1002  Type A botulinin toxin for the treatment of hereditary spastic paraparesis - Results in 11 cases
R. Nickel, C.C. Mello, T.R. Blume, N. Becker, R.P. Munhoz, H.A. Teive (Curitiba, Brazil)

1003  Unexpected mutation frequency and gender difference of SPG4 in Chinese autosomal dominant hereditary spastic paraplegia patients
L. Shen, Z. Zhan, Y. Wang, C. Chen, B. Tang (Changsha, China)

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1004  RNAi-mediated silencing of VPS35 exacerabates phenotypic and locomotor abnormalities in -synuclein transgenic drosophila
T. Hasegawa, M. Konno, E. Miura, A. Kikuchi, M. Aoki, A. Takeda (Sendai, Japan)

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N. Sugeno, T. Hasegawa, M. Konno, E. Miura, A. Kikuchi, M. Aoki, A. Takeda (Sendai, Japan)

1006  COMT inhibition as an approach to minimising L-DOPA-induced dyskinesia in the MPTP-lesioned macaque model of Parkinson’s disease
T.H. Johnston, P. Huot, J.B. Koprich, T. Snoeren, M.P. Hill, S.H. Fox, J.M. Brotchie (Toronto, ON, Canada)

1007  The time-course of disease modifying effects of the neurotrophic factor inducer, PYM50028, in the MPTP-mouse model of Parkinson’s disease

1008  Impaired redox balance and autophagosome clearance in fibroblasts from Parkinson’s disease patients with LRRK2 G2019S mutation
A. Grünewald, B. Arns, P. Seibler, B. Meier, A. Rakovic, C. Klein (Lübeck, Germany)

1009  Progressive MSA-like motor deficits in the PLP-h-synuclein transgenic mouse model
N. Stefanova, J. Kuen, C. Borm, W. Poewe, G.K. Wenning (Innsbruck, Austria)

1010  Withdrawn by Author

1011  Movement deficits produced by inferior olive lesion are subdivision specific
A. Deep, K. Horn, A. Gibson (Phoenix, AZ, USA)

1012  The effect of cerebellar disease (CD) and Parkinson’s disease (PD) on lower limb intersegmental covariation in linear and circular locomotion with and without vision
S.D. Israelni-Korn, A. Barliya, C. Paquette, E. Franzén, R. Inzelberg, F. Horak, T. Flash (Rehovot, Israel)
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1013  Post-traumatic hemifacial spasm (t-HFS), a rare cause of HFS with unusual clinical features  
D. Reyes, K. Kurako, S. Baez-Torres, N. Galvez-Jimenez (Weston, FL, USA)

1014  L-PGDS could be a surrogate marker of frontal lobe dysfunction in idiopathic NPH  
N. Nishida, N. Nagata, H. Toda, M. Ishikawa, Y. Urade, K. Iwasaki (Osaka, Japan)

1015  Expanded cell cultures from brain samples in living patients with Parkinson’s disease  
H. Xu, L. Belkacemi, M. Jog, A. Parrent, M.O. Hebb (London, ON, Canada)

1016  RNAi-mediated knockdown of VPS35 impairs β-synuclein degradation by inhibiting the maturation of cathepsin D  
E. Miura, T. Hasegawa, M. Konno, N. Sugeno, A. Kikuchi, T. Baba, M. Aoki, A. Takeda (Sendai, Japan)

1017  Role of the ubiquitin proteasome system and the lysosomal system in PINK1-/ parkin-dependent mitophagy in human primary fibroblasts  
K. Shurkewitsch, A. Rakovic, C. Klein (Lübeck, Germany)

1018  Cholinergic olfactory centrifugal inputs are reduced in patients with neurodegenerative disorders and MPTP treated monkeys  

1019  Parkinson’s disease and nociceptive response: Spinal opioidergic modulation on the mechanical hyperalgesia in hemiparkinsonian rats  
R.L. Pagano, M.B. Berzuino, A.C.P. Campos, E.T. Fonoff (Sao Paulo, Brazil)

1020  Expression of synaptic proteins in normally aging human substantia nigra pars compacta  
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1021  The role of aldehyde dehydrogenase on the pathogenic mechanism of Parkinson’s disease  

1022  The effect of dyskinesia on gait in Parkinson’s disease  
M. Danoudis, J. McKinley, R. Iansek (Cheltenham, Australia)

1023  The regulation of the male sex-determining gene SRY in Parkinson’s disease models  
D.P. Czech, J. Lee, J. Correia, E. Moller, V. Harley (Clayton, Australia)

1024  Copper pathology in the vulnerable substantia nigra in Parkinson’s disease  
K.M. Davies, S. Bohic, R. Ortega, V. Cottam, D.J. Hare, J.P.M. Finberg, G. Halliday, J.F.B. Mercer, K.L. Double (Sydney, Australia)

1025  Serotonin dysfunction in Parkinson’s disease does not correlate with levodopa-induced dyskinesias  

1026  Synaptic dysfunction implicated in leucine-rich repeat kinase-2 (LRKK2) R1441G knockin mice  

1027  The neuroinflammatory response induced by MPTP is altered in mice lacking the type-I interferon-β receptor-1 (IFNAR1)  
J.M. Taylor, B.S. Main, M. Zhang, S. Ayton, D. Finkelstein, P.J. Crack (Melbourne, Australia)

1028  Structural analysis of β-synuclein by small-angle X-ray (SAXS) and neutron (SANS) scattering  
K. Araki, H. Kujirai, S. Fujiwara, H. Yagi, H. Mochizuki (Suita, Japan)

1029  The value of dehydroepiandrosterone sulfate determination in the diagnosis of early forms of Alzheimer’s disease  
P. Yunusov, R. Gulnora, T. Dilshod (Tashkent, Uzbekistan)

1030  Loss of DJ-1 function alters disease course and shortens survival of mutant SOD1 mice  
N. Lev, Y. Barhum, I. Lotan, I. Steiner, E. Melamed, D. Offen (Ramat Gan, Israel)

1031  Towards a lesion model of early stage MSA-P with partial L-DOPA failure: A novel testbed for targeted cell therapy  
C. Kaindlstorfer, J. Garcia, N. Stefanova, W. Poewe, C. Winkler, M. Döbrössy, G. Wenning (Innsbruck, Austria)

1032  Loss of DJ-1 functions attenuates astrocytes neuroprotective abilities  
N. Lev, Y. Barhum, T. Ben-Zur, E. Melamed, I. Steiner, D. Offen (Ramat Gan, Israel)

1033  Cholinergic cell loss and altered morphology accompanied by structural changes affecting the pedunculopontine nucleus in the lactacytin rat model of Parkinson’s disease  
I.F. Harrison, A. Bury, D.T. Dexter, I.S. Pienaar (London, United Kingdom)

1034  Therapeutic approach to Parkinson’s disease by modifying β-synuclein expression  
H. Yamakado, T. Asano, R. Takahashi (Kyoto, Japan)

1035  Uncovering early markers of Parkinson’s disease pathological progression using proteomics  

1036  PBT434, a novel 8-hydroxyquinazolinone, preserves nigro-striatal circuitry, improves motor performance and inhibits alpha synuclein accumulation in animal models of Parkinson’s disease by modulation of iron homeostasis  
D.I. Finkelstein, J.L. George, P.A. Adlard, C.L. Masters, D.J. Hare, P.A. Doble, E. Gautier, J. Parsons, G. Kok, P. Huggins, K.J. Barnham, A.I. Bush, R.A. Cherny (Melbourne, Australia)

1037  Humoral response against glial derived antigens in Parkinson’s disease  
E. Papuc, J. Kurzepa, E. Kurys, A. Grabarska, W. Krupski, K. Reidjak, Z. Stelmasiak (Lublin, Poland)

1038  Extracellular alpha-synuclein enhanced cell survival in neuronally differentiated SHSY-5Y cells at nanomolar concentration via AKT pathway  
J.Y. Kim, H.J. Kim, B.S. Jeon (Seoul, Korea)

1039  Overexpression of cannabinoid CB2 receptors attenuated the progressive motor impairment and nigrostriatal dopaminergic neurons loss in MitoPark mouse  
F. Navarrete-Rueda, J.M. Pérez-Ortiz, M.S. Garcia-Gutierrez, J.A. Molina-Arjona, C. Leiva-Santana, J. Manzanares (San Juan de Alicante, Spain)

1040  Protective potential of 17β-estradiol on membrane linked functions in aging female rats: A behavioral, biochemical and ultrastructural study  
P. Kumar, R.K. Kale, N.Z. Baqer (New Delhi, India)
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1041 Withdrawn by Author

1042 Saskatoon brain safety deposit model – Clinicopathological studies of movement disorders
A. Rajput, A.H. Rajput (Saskatoon, SK, Canada)

1043 Acute impedance changes during programming & corresponding stimulation estimates
G.K. Steinke, S. Carcieri, A. Jackson, C. Zhu, H. Haut, W. Stoffregen, L. Wojick (Santa Clarita, CA, USA)

1044 Altered protein homeostasis and bioenergetics in fibroblasts derived from patients with Parkinson’s disease
F. Blandini, G. Ambrosi, C. Ghezzi, R. Zangaglia, B. Minafra, C. Pacchetti, S. Sepe, M.T. Armentero, P.G. Mastroberardino (Pavia, Italy)

1045 Effects of quadripulse stimulation over medial frontal cortex on human visuomotor sequence learning

1046 Study of saccadic eye movement abnormalities in patients of young onset Parkinson’s disease as compared to idiopathic Parkinson’s disease
V. Goyal, N. Jain, S. Sood, G. Shukla, M. Behari (New Delhi, India)

1047 Alterations in glutamate kinetic parameters and alpha-synuclein expression in middle-aged mice with a partial reduction of GDNF
H.A. Boger, W.D. Wynn, A. Quattlebaum, R.A. Gregory, K.L. Helke (Charleston, SC, USA)

1048 Viable Gaucher’s disease model of medaka fish completely deficient in glucocerebrosidase activity developed alpha-synuclein aggregation in the brain

1049 Using the anterior olfactory nucleus to study Lewy pathology in olfactory structures

1050 Overexpression of A53T α-synuclein in cynomolgus macaques produces a synucleinopathy and results in reductions in nigral dopamine neurons and striatal dopamine levels
J.B. Koprich, T.H. Johnston, J.M. Brotchie (Toronto, ON, Canada)

1051 The aged rodent brain displays higher susceptibility to alpha-synuclein toxicity

1052 Catecholamine substrates of behavioral inflexibility in a rat model of Parkinson’s disease

1053 Chaperone-mediated regulation of JNK signalling in dopaminergic cell death
S.K. Kalia, H. Chau, L.V. Kalia, A.M. Lozano (Toronto, ON, Canada)

1054 Glutamate receptors in cerebellar cortex of essential tremor and controls
A. Rajput, C. Luo, A.H. Rajput (Saskatoon, SK, Canada)

1055 Annonacin, a natural lipophilic mitochondrial complex I inhibitor, increases phosphorylation of tau in the brain of FTD-17 transgenic mice

1056 Altered cortical but not thalamic connectivity in the direct and indirect pathways in hemiparkinsonian Drd1a-tdTomato BACtransgenic mice
M.V. Escande, I.R. Taravini, J.E. Belforte, M.G. Murer (Buenos Aires, Argentina)

1057 Gene expression in skin of Parkinson’s disease patients

1058 Long-term expression of viral vector-delivered A53T alpha-synuclein produces sustained signs of dopaminergic dysfunction in a rat model of Parkinson’s disease
J.B. Koprich, P. Huot, P. Ravenscroft, T.H. Johnston, J.M. Brotchie (Toronto, ON, Canada)

1059 Systemic distribution of lewy body pathology in an aging cohort
S. Murayama, M. Takao, H. Hatsuta, H. Sumikura, S. Ito, A. Nagomi, A. Uchino, Y. Saito (Tokyo, Japan)

1060 Photobiomodulation inside the brain: A novel method of intracranial application of near-infrared light and its impact on dopaminergic cell survival in MPTP-treated mice
C. Moro, N. el Massri, N. Torres, D. Ratel, C. Chabrol, F. Perraut, A. Bourgerette, S. Purushothuman, D. Johnstone, J. Stone, J. Mitrofanis, A.L. Benabid (Sydney, Australia)

1061 Correlation of vascular Parkisonism course with the different forms of dementia
I.V. Verulashvili, M.G. Kortushvili (Tbilisi, Georgia)

1062 Epilepsy: A global dilemma
R.N. Mbogua (Nairobi, Kenya)

1063 Anti-basal antibodies in multiple system atrophy
D.A. Labunskiy, V.V. Poleshchuk, S.G. Morozov (Santa Rosa, CA, USA)

1064 Aging, dopaminergic midbrain areas and behaviour in chronic experimental Parkinsonism
C.M. Campuzano, J.E. Yuste, R.B. Francisco, E. Tarragon, C. Estrada, D. Lopez, A. Gomez, C.M. Ros, E. Fernandez-Villalba, M.T. Herrero (Castelló de la Plana, Spain)

1065 Analysis of structural plastic changes underlying L-DOPA induced dyskinesias in an animal model of parkinsonism
I. Taravini, L.M. Suárez, G. Gómez, M. Escande, L. Rela, R. Moratalla, G. Murer, O. Gershank (Buenos Aires, Argentina)

1066 Seleglime and L-DOPA modulate the number of newborn neurons in the olfactory bulb in an acute 6-OHDA mouse model of Parkinson’s disease

1067 Both acetylated and unacetylated ghrelin confer neuroprotection on mesencephalic neurons against various toxins
J. Wagner, B. Arns, A. Grünewald, M.M. Unger, W.H. Oertel, V. Ries, D. Alvarez-Fischer (Lübeck, Germany)

1068 This study was conducted to see therapeutic effect of rTMS on writer’s cramp
C. Goyal, V. Goyal (New Delhi, India)
Abstracts by Topic

**Education in Movement Disorders**

**1069** Awareness about movement disorders in medical fraternity: The fact
P.L. Kukkle (Bangalore, India)

**1070** Clinical characteristics of 10 patients displaying psychogenic movement disorders in a tertiary clinic in Turkey
H. Apaydin (Istanbul, Turkey)

**1071** Associations between clinical and performance measures with self-restricted driving practices in older adults with Parkinson’s disease
A.M. Crizzle, A.M. Myers, Q.J. Almeida, E. Roy (Hamilton, ON, Canada)

**1072** Familial functional movement disorders

**1073** A Parkinson’s disease nurse specialist course for East Africa
R. Walker, L. Ebeneezer, C. Dotchin, L. Hind, M. Msuya, M. Daniels, J. Hooker (North Shields, United Kingdom)

**1074** Effectiveness of self-efficacy learning program for newly diagnosed Parkinson’s disease (PD) patients: 3 month interim report
D. Cook, C. McRae, R. Kumar (Denver, CO, USA)

**1075** Strength training for mobility in neurological rehabilitation is not task-specific: A systematic review
G. Williams, M. Kahn, A. Randall (Melbourne, Australia)

**1076** Involuntary movements in brainstem stroke as seizure-mimics
S. Jaiswal, N. Chaudhary, J.M.K. Murthy (Hyderabad, India)

**1077** European guidelines for physiotherapy in Parkinson’s disease

**1078** Creative, curiosity driven research question generation and project development around Parkinson’s disease, at an international Parkinson’s disease summer school, report on 4 years process improvement
P. de Roos, K. Nesterowicz, S.M. Fereshtehnejad (Uppsala, Sweden)

**1079** Training the next generation of neurologists: Movement disorders education for residents
A.L. Molinari, M. Turchan, A.D. Currie, T.L. Davis, F.T. Phibbs, P.D. Charles (Nashville, TN, USA)

**1080** Diagnostic disagreement in movement disorders
A. Killoran (Morgantown, WV, USA)

**Epidemiology**

**1081** Review article - Movement disorders in Ethiopia
D.K. Worku (Addis Ababa, Ethiopia)

**1082** Increased risk of depression in patients with Parkinson’s disease: A nationwide cohort study
C.C. Liao, Y.T. Hsu, F.C. Sung (Taipei, Taiwan)

**1083** Spectrum and burden of movement disorder conditions in a tertiary movement disorders centre in Singapore — A 10 year trend

**1084** Prevalence of Parkinson’s disease in Baskale, Turkey: A population-based study
H. Durmus, M.A. Gokalp, H.A. Hanagasi (Istanbul, Turkey)

**1085** Active pharmacovigilance and Parkinson’s disease: Identifying vulnerable populations at risk of developing cancers or experiencing negative cardiovascular effects
J.A.G. Crisp, D. Krewski (Ottawa, ON, Canada)

**1086** Frequency of mild parkinsonian signs in a population-based cohort

**1087** Prevalence and clinical characteristics of post-stroke movement disorders after acute ischemic stroke
W.T. Yoon, B.C. Suh, H.S. Moon, P.W. Chung, Y.B. Kim (Seoul, Korea)

**1088** Time to levodopa treatment initiation in a multicentric cohort: The Mexican national registry

**1089** Trends in anti-Parkinsonian medication use in New Zealand: 1995-2011
T.L. Pitcher, M.R. MacAskill, T.J. Anderson (Christchurch, New Zealand)

**1090** Delayed hits and misses in the diagnosis of Parkinson’s disease: A nationwide cohort study
C.L. Go, R.L. Rosales (Manila, Philippines)

**1091** Movement disorders after stroke
M. Chraa, N. Kissani (Marrakesh, Morocco)

**1092** Prevalence of restless legs syndrome and REM behavior disorder in a population-based sample in Northern Germany
S. Wolff, J. Graf, J. Hagenah, C. Klein, M. Kasten (Luebeck, Germany)

**1093** Exploring determinants of progression of Parkinson’s disease
Y. Örtev, G. Yahalom, O.S. Cohen, R. Inzelberg, E. Kozlova, U. Goldbou, S. Hassin-Baer (Ramat-Gan, Israel)

**1094** The association of environmental risk factors and family history in young-onset versus late-onset Parkinson’s disease
J.Y. Hor, T.T. Lim, C.S.T. Lim, J.H. Cho, G.B. Eow, P.E.S. Easaw, M.H. Rafia (Penang, Malaysia)

**1095** Association between Yerba Mate (Ilex paraguaiensis) consumption and risk of Parkinson’s disease

**1096** Up-to-date data of prevalence of Parkinson’s disease in Ukraine
Y.O. Trufanov (Lugansk, Ukraine)

**1097** A case-control study of lithium deficiency in Parkinson’s disease
L.K. Mischley, W.A. Kukull (Kenmore, WA, USA)

**1098** PREDICT-PD study: Online screening algorithm identifying Parkinson’s disease risk

**1099** Severe adverse reactions after botulinum toxin treatment in Parkinson’s disease
C. Milani, S.L.S. Milani (Ribeirao Preto, Brazil)

**1100** Environmental pollutants in Ulaanbaatar are risk factors for Parkinson’s diseases
U. Dashdorj, B. Bold (Ulaanbaatar, Mongolia)

**1101** Use of antihypertensive agents and risk of Parkinson’s disease: A meta-analysis of observational studies
K. Gruda, D. Bansal (Mohali, India)
Abstracts by Topic

**Personality traits in psychogenic non-epileptic seizures (PNES) and psychogenic movement disorder (PMD): Neuroticism versus perfectionism**

V. Ekanayake, S.M. Kranick, K. LaFaver, A. Naz, A.F. Webb, W.C. LaFrance, Jr., V. Voon, M. Hallett (West Lafayette, IN, USA)

1103 The clinical features of Parkinson’s disease patients with pathogenic and non-pathogenic glucocerebrosidase gene mutations

T. Oeda, A. Umemura, R. Hayashi, S. Tomita, M. Kohsaka, K. Inoue, H. Fujimura, H. Sugiyama, H. Sawada (Kyoto, Japan)

1104 A long-term analysis of aspiration pneumonia prevalence and mortality in patients with Parkinson’s disease

U. Akbar, B. Dham, Y. He, S. Wu, M.S. Okun (Gainesville, FL, USA)

**Genetics**

1105 Dystonia, facial dysmorphism, intellectual disability and breast cancer associated with a chromosome 13q34 duplication and overexpression of TFDP1: Case report

M. Moscovich, M.S. LeDoux, J. Xiao, G.L. Rampon, S.R. Vemula, R. Rodriguez, K.D. Foote, M.S. Okun (Curtiniba, Brazil)

1106 Neurological outcome in cerebrotendinous xanthomatosis treated with chenodeoxycholic acid: Early versus late diagnosis

G. Yahalom, R. Tsabari, N. Molschakri, L. Ephraty, H. Cohen, S. Hassin-Baer (Tel-Hashomer, Israel)

1107 Paroxysmal kinesigenic dyskinesia and PRRT2 mutations: Clinico-genetic correlations


1108 Four years’ experience of chronic and progressive ataxias program in the Hospital JM Ramos Mejia - Buenos Aires, Argentina

S.A. Rodriguez-Quiroga, D. Gonzalez-Morón, T. Arakaki, N.S. Garretto, M.A. Kauffman (Caba, Argentina)

1109 Replication of GWAS association for MCCC1/LAMP3 in Parkinson’s disease in Han Chinese

N.N. Li, X.L. Chang, X.Y. Mao, D.M. Zhao, Q. Liao, E.K. Tan, R. Peng (Chengdu, China)

1110 Phenotypic spectrum of mutations in GNAL: A novel cause of cranio-cervical dystonia


1111 Analysis of N551K and R1398H LRRK2 variants in an Asian cohort


1112 PRRT2 mutation screening in patients with paroxysmal kinesigenic dyskinesia from Southwest China

Y. Chen, W. Song, J. Yang, Z.Z. Zheng, R. Huang, K. Chen, B. Zhao, X. Chen, J.M. Burgunder, H. Shang (Chengdu, China)

1113 A specific SEPT14 haplotype is associated with a reduced risk for Parkinson’s disease

A. Orr-Urtreger, L. Rozenkrantz, Z. Gan-Or, M. Gana-Weisz, A. Mirelman, T. Gurevich, A. Bar Shira, N. Giladi (Tel Aviv, Israel)

1114 Diagnostic exome sequencing in movement disorders

E.J. Kamsteeg, C. Gilissen, K. Neveling, R. de Reuver, B. van de Warrenburg, M. Willemsen, S. Vermeer, H. Brunner, J. Veltman, M. Nelen, H. Scheffer (Nijmegen, Netherlands)

1115 Withdrawn by Author

1116 Genetic analysis of Parkinson’s disease, torsion dystonia and Huntington’s disease in Belarus

O.A. Yacuts, K.A. Mosse, I.V. Pleshko, S.A. Likhachev (Minsk, Belarus)

1117 Clinical features of onset in monogenic Parkinson’s disease

A.E. Elia, J. Azzollini, C. Bagella, M. Careccchio, C. Barzaghi, B. Garavaglia, A. Albanese (Milan, Italy)

1118 Genetic analysis for C9orf72 hexanucleotide repeat expansion in neurodegenerative disorders in Taiwan

C.S. Lu, S.C. Lai, Y.H. Weng, H.C. Chang, C.L. Huang, B. Traynor, T.H. Yeh (Taoyuan, Taiwan)

1119 Interaction between caffeine intake and LRRK2 variant in Parkinson’s disease

S.S.T. Paing, H. Li, Y. Zhao, K.M. Prakash, E.K. Tan (Singapore, Singapore)

1120 A role for SRY in healthy and injured dopamine pathway: Implication for male susceptibility to Parkinson’s disease

J. Lee, D. Czeck, J. Correia, A. Russ, E. Vilain, V. Harley (Melbourne, Australia)

1121 Rare variants in ubiquitin specific peptidase 21 (USP21) are not associated with Parkinson’s disease

J.H. Hong, J.M. Choi, K.H. Kim, M.J. Chae, H.K. Park, S.Y. Kang, H.I. Ma, J. Kim, W.C. Kim, Y.J. Kim (Ynang, Korea)

1122 A novel autosomal recessive torsion dystonia of childhood onset, caused by a mutation in adenylyl cyclase 5 gene

S.A. Bohlegra, E.J. Cuper, A.J. Alsaif (Riyadh, Saudi Arabia)

1123 SPG11 sequencing in worldwide populations of familial and sporadic spastic paraplegia patients reveals frequent mutations and the common association of parkinsonian features


1124 Targeted DNA sequencing for neurodegenerative disorders

S. Appel-Cresswell, M.J. Farrer (Vancouver, BC, Canada)

1125 Mutation screening of the PRRT2 gene in patients with Tourette syndrome in Taiwan

S.C. Lai, T.H. Yeh, C.L. Huang, H.C. Chang, C.S. Lu (Taoyuan, Taiwan)

1126 The tumor suppressor gene WWOX is mutated in autosomal recessive cerebellar ataxia with epilepsy and mental retardation

M. Mallaret, O. Lagha Boukbiza, N. Drouot, M. Renaud, F.A.C. Klein, M. Anheim, C. Mignot, J.L. Mandel, M.A. Salih, M. Koenig (Strasbourg, France)

1127 Association studies of MMP-9 in Parkinson’s disease and amyotrophic lateral sclerosis

L. Yu, X. He, L. Zhang, Z. Liu, Y. Xu (Chengdu, China)

1128 Genetic polymorphism of adenosine A2a receptor is associated with the development of Parkinson’s disease and of L-dopa-induced hyperkinesia

J.J. Lin, K.C. Yueh (Nantou, Taiwan)

1129 Association of dopamine metabolizing gene polymorphisms in Parkinson’s disease - A study from India

R. Borgohain, K. Nadella, A. Uma, R.M. Kandadai, V.K. Kutala (Hyderabad, India)
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1130 Behavioral characteristics of asymptomatic G2019S mutation carriers of the LRRK2 gene  

1131 LRRK2 mutations and Parkinson’s disease in the Uruguayan population  

1132 New insights into the genetics of X-linked dystonia-parkinsonism  
A. Domingo, A. Westenberger, R. Rosales, R.D. Jamora, P.M. Pasco, K. Lohmann, L.V. Lee, C. Klein (Lübeck, Germany)

1133 VPS35 gene variant Asp208Asn in patients with Parkinson’s disease in Serbian population  
M.Z. Jankovic, V.S. Dobric, N.D. Kresojevic, A.D. Tomic, V.V. Markovic, M.V. Svetel, I.V. Novakovic, V.S. Kostic (Belgrade, Serbia)

1134 Prevalence of c.801-2A>G mutation in the DNAJC6 gene in Parkinson’s disease from southern Spain  

1135 Systematic mutational analysis of FBX07 in a Parkinson’s disease population from southern Spain  

1136 Mutation analysis for DNAJC6 in patients with early-onset Parkinson’s disease  
H. Tomiyama, M. Ando, Y. Li, H. Yoshino, N. Hattori (Tokyo, Japan)

1137 PRRT2 gene mutation analysis in Korean familial and sporadic patients with paroxysmal kinesigenic dyskinesia  
J. Youn, Y. Jeong, J.T. Ahn, J.W. Cho (Seoul, Korea)

1138 Clinical and genetic characteristics of first degree relatives of Jewish patients with Parkinson’s disease of North African origin  

1139 Association of P2X7 receptor gene polymorphisms with sporadic Parkinson’s disease in a Han Chinese population  
H. Liu, a. Xie (Qingdao, China)

1140 DYT6/THAP1 gene sequencing as a part of standard clinical examination: Comprehensive data for Serbian dystonia cohort  
V.S. Dobric, M.Z. Jankovic, N.D. Kresojevic, A.D. Tomic, I.N. Petrovic, M.V. Svetel, I.V. Novakovic, V.S. Kostic (Belgrade, Serbia)

1141 Analysis of apolipoprotein E genotype in Taiwanese patients with sporadic PD  
C.L. Huang, S.C. Lai, H.C. Chang, T.H. Yeh, C.S. Lu (Taoyuan, Taiwan)

1142 Rapid disease progression in adult-onset mitochondrial membrane protein associated neurodegeneration  
O. Dogu, C.E. Krebs, H. Kaleagasi, Z. Demirtas, N. Oksuz, R.H. Walker, C. Paisán-Ruiz (Mersin, Turkey)

1143 The human testis-determining factor SRY localizes in midbrain dopamine neurons and regulates multiple components of catecholamine synthesis and metabolism  
D.P. Czech, J. Lee, H. Sim, C.L. Parish, E. Vilain, V.R. Harley (Clayton, Australia)

1144 Search for rare-variant risks of Parkinson’s disease by sequencing of candidate genes and exome sequencing  
W. Satake, Y. Ando, H. Tomiyama, A. Takeda, K. Hasegawa, M. Yamamoto, M. Murata, N. Hattori, T. Toda (Kobe, Japan)

1145 Rare variants in Alzheimer’s disease and frontotemporal dementia genes in Parkinson’s disease  

1146 Leucine-rich repeat kinase 2 (LRRK2) is secreted in urinary and CSF exosomes: Implication as a biomarker for Parkinson’s disease  

1147 Brain-derived neurotrophic factor G196A polymorphism and clinical presentation of Parkinson’s disease in Serbian patients  
A. Tomic, M. Svetel, T. Pekmezovic, V. Markovic, G. Djuric, N. Dragasevic, I. Petrovic, V.S. Kostic (Belgrade, Serbia)

1148 MicroRNA as modifiers of age of onset of Parkinson’s disease  
T. Fixier Mehr, R. Djaldetti, N. Kaptan, O.S. Cohen, R. Inzelberg, G. Yahalom, E. Friedman, S. Hassin-Baer (Ramat-Gan, Israel)

1149 Polymorphism in HOMER1 gene is associated with levodopa induced dyskinesia in Parkinson’s disease patients  
A.F. Schumacher-Schuhl, M.S. Medeiros, V. Allmann, M. Rieck, T.L. Monte, C.R.M. Rieder, P.H. Hutz (Porto Alegre, Brazil)

1150 Variants in ANO3 as susceptibility factor in essential tremor?  
F. Hopfner, M. Bungeroth, G. Deuschl, G. Kuhlenbäumer, S.A. Schneider (Kiel, Germany)

1151 Familial correlations with lewy body pathology in LRRK2-related Parkinson’s disease  

1152 Association between PARK16 and Parkinson’s disease in the Han Chinese population: A meta-analysis  
K.H. Chang, Y.R. Wu, C.M. Chen, Y.C. Chen (Taoyuan, Taiwan)

1153 Defective synthesis of complex gangliosides is involved in hereditary spastic paraplegia  

1154 Variable penetrance of the LRRK2-R1441G mutation in a Peruvian family  
M.R. Cornejo-Olivas, L. Torres, P. Mazzetti, C. Cosentino, C.P. Zabetian, I.F. Mata ( Lima, Peru)

1155 Is GCH1 a risk locus for Parkinson’s disease? Evidence from a case report  
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1156  Atypical Chédiak-Higashi syndrome with attenuated phenotype: Three adult siblings homozygous for a novel LYST deletion and with neurodegenerative disease

1157  FBX07 variations in Taiwanese Parkinson’s disease
C.M. Chen, I.C. Chen, Y.C. Huang, H.F. Juan, G.J. Lee-Chen, Y.R. Wu (Taipei, Taiwan)

1158  Genetic variations of GAK in two Chinese Parkinson’s disease populations: A case-control study
Y.R. Wu, C.M. Chen, C.M. Chen, W.E.J. Tseng, E.K. Tan, Y. Zhao (Taipei, Taiwan)

1159  A comprehensive diagnostic test for familial and early onset Parkinson’s disease based on next-generation sequencing

1160  APP processing genes and cerebrospinal fluid biomarker levels in Parkinson’s disease dementia
L.M. Bekris, F. Lutz, S. Millard, T.W. Debby, P.R. Elaine, Y.E. Chang, M.J. Thomas, Z. Jing, Z. Cirus, L.B. James (Seattle, WA, USA)

1161  The LRRK2 R1441H mutation and Parkinson’s disease
L. Correia Guedes, M. Quadri, V. Bonifati, J.J. Ferreira (Lisbon, Portugal)

1162  DRD3 receptor polymorphism may confer risk for younger onset Parkinson’s disease
A. Hassan, M.S. Okun, D.J. Serie, M.G. Heckman, J.E. Ahlskog, R.J. Uitti, Z. Wszelek, O.A. Ross (Rochester, MN, USA)

1163  Association between DRD2 and NMDA GRIN2B genetic polymorphisms in Caucasian Parkinson’s disease patients
A. Hassan, M.S. Okun, D.J. Serie, M.G. Heckman, J.E. Ahlskog, Z. Wszelek, R.J. Uitti, O.A. Ross (Rochester, MN, USA)

1164  Comprehensive assessment of genetic sequence variants in the antioxidant ‘master regulator’ NFE2L2 in idiopathic Parkinson’s disease (PD)
M. Todorovic, J.R.B. Newman, G.D. Mellick (Brisbane, Australia)

1165  The effect of genetic background on engrailed1+- induced loss of midbrain dopaminergic neurons
Z. Kurowska, U. Nordström, M. Swanberg (Lund, Sweden)

1166  Clinical phenotype of Parkinson’s disease: Impact of microtubule-associated protein Tau
V. Montemurro, E. Di Battista, C. Purcaro, R. ScotaZZa, P. Esterina, G. Meco (Roma, Italy)

1167  Withdrawn by Author

1168  A novel heterozygous mutation in ATP synthase (electron transport chain complex V) subunit c gene ATP5G3 causes autosomal dominant dystonia and spastic paraplegia
D.L. Gilbert, N.D. Leslie, R.B. Hufnagel, D.E. Neilton (Cincinnati, OH, USA)

1169  Using next-generation sequencing as a diagnostic tool in rare neurological Mendelian disorders

1170  SNCA variants do not predict motor progression in Parkinson’s disease

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1178  Whose name is it anyway? The prevalence of the apostrophe in selected eponymous neurodegenerative diseases, 1960-2012
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1181  Clinical features of dementia with lewy bodies in 35 Chinese patients
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1182  α-Synuclein pathology is related with postoperative delirium in patients undergoing gastrectomy

1183  Mammalian HtrA2 functions to protect α-synuclein-induced prion protein deposition in mice
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1190 Spectrum of hyperkinetic movements in sporadic Creutzfeldt-Jakob disease (sCJD): A literature review M. Molina, R. Fekete (Valhalla, NY, USA)

1191 The functional MRI (fMRI) manifestation of stimulus sensitive myoclonus in corticobasal degeneration C.H. Tsai, J.M. Chen, M.K. Lu, J.R. Duann (Taiichung, Taiwan)


1193 The correlation between spinal cord lesions and propriospinal myoclonus E. Marcello, E.J. Mark, C. Olga, C. David, B.P. Kailash, C. Carla (Naples, Italy)

1194 Unusual case of jerking stiff person syndrome N. Chaudhary, S. Jaiswal, J.M.K. Murthy (Hyderabad, India)

1195 Clinical and neurophysiological findings in Post hypoxic myoclonus M. Beudel, J.W.J. Ellting, M.A.J. Tijssen (Groningen, Netherlands)

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1196 Meat, nicotinamide and longevity: Is Parkinson’s disease the trade-off? A. Williams, L. Hill, S. Patel (Birmingham, United Kingdom)

1197 Rise in incidence of Parkinson’s disease in the 19th century UK correlates with increased meat intake A. Williams, L. Hill, S. Patel (Birmingham, United Kingdom)

1198 Incobotulinumtoxin A affects pain perception in healthy subjects T. Vogt, S. Mbialu, C. Geber, F. Birklein (Mainz, Germany)

1199 Neuroprotective effect of curcumin with a fixator of absorption against both aluminium neurotoxicity and Alzheimer’s disease (experimental studies in mice) N. Djebli (Mostaganem, Algeria)

1200 New autoimmune encephalopathy with myoclonus and dystonia responsive to delayed treatment M. Marina, L. Lydia, G. Francesc, M. Antonio, L.L. Juan Jose (Madrid, Spain)

1201 Use of the levodopa sparing strategy in young onset Parkinson’s disease A.Q. Rana, Y. Mujawaz, M.A. Rana (Toronto, ON, Canada)

1202 Long-term efficacy of botulinum toxin in patients with hemifacial spasm T. Demir, S. Yildirim, M. Demirkiran (Adana, Turkey)

1203 Neuroprotective abilities of DJ-1 based peptide in models of Parkinson’s disease N. Lev, Y. Barhum, T. Ben-Zur, D. Offen, E. Melamed (Ramat Gan, Israel)


1206 Botulinum toxin type A for the treatment of cephalic cutaneous allodynia in chronic migraine: A randomized, double-blinded, placebo-controlled pilot trial L. Monteiro, L. Hollanda, A. Melo (Salvador, Brazil)

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1208 Burden of care among caregivers in Indian patients with Parkinson’s disease K.B. Bhattacharyya, P. Basu, A. Mishra, D. Sanyal, S.K. Das (Kolkata, India)

1209 Evaluation of the motivation of family doctors in providing care to patients with Parkinson’s disease and movement disorders O.M. Korzh, S.V. Krasnokutskiy, E.V. Lavrova (Kharkov, Ukraine)

1210 Outcomes of a pilot 5 day physiotherapy programme for functional movement disorders (FMDs) G. Nielsen, M.J. Edwards (London, United Kingdom)


1212 Determinants of health-related quality of life with Parkinson’s disease living in Australia S.E. Soh, J.L. McGinley, J.J. Watts, A.T. Murphy, R. Iansek, H.B. Menz, M.E. Morris (Melbourne, Australia)

1213 A study to compare the effects of motor and non-motor symptoms on the health related quality of life of patients with Parkinson’s disease G.V. Veena, M. Agarwal, M. Behari (New Delhi, India)

1214 Quality of life and its determinants in a cohort of patients with Parkinson’s disease from a developing country in Asia P.N. Weeratunga, J. Graf, R. Reginold, J. Sale, M. Zuurwski, J. Miyasaki, J.J. Ferreira, C. Marras (Toronto, ON, Canada)

1215 Reluctance to start medication in Parkinson’s disease from the patient perspective: Results from an international observational study T.A. Mestre, T. Teodoro, J. Graf, R. Reginold, J. Sale, M. Zuurwski, J. Miyasaki, J.J. Ferreira, C. Marras (Toronto, ON, Canada)
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1218  The long-term safety and efficacy of thalamic deep brain stimulation in essential tremor
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1219  Comparison of double monopolar and interleaving stimulation modes in the treatment of primary generalized and segmental dystonia
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1225  Influence of electrode position and outcome following deep brain stimulation surgery in the management of childhood primary and secondary dystonias

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1230  Combined pallidal and subthalamic deep brain stimulation in dystonia- Report of two cases
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1284 Temporarily faster decline in global cognitive function after bilateral STN DBS in Parkinson’s disease

1285 Subthalamic nucleus deep brain stimulation effects on cardiovascular dysfunction in Parkinson’s disease

1286 Effects of bilateral subthalamic deep brain stimulation on gastric myoelectric activity in Parkinson’s disease

1287 Does intra-operative micro-stimulation predict post-operative side effects of subthalamic deep brain stimulation (STN DBS)?
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1288 Parkinson study group survey of impulsive and compulsive disorders in Parkinson’s disease pre and post deep brain stimulation
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1291 Optimized outpatient information increases deep brain stimulation acceptance rate
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1292 Neuroleptic-like malignant syndrome following battery depletion in a patient with deep brain stimulation for secondary parkinsonism

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1294 Temporal dynamics of post-operative impedance at the tissue-electrode interface in deep brain stimulation patients

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1297 Localisation of the subthalamic nucleus in Parkinson’s disease with neural beta and gamma activity of local field potentials
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1301 Effect of pedunculopontine nucleus stimulation at low frequency on gait and balance disorders in advanced Parkinson’s disease
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1305 Does dopa-responsive axial impairment in Parkinson’s disease predict a poor outcome of subthalamic nucleus deep brain stimulation?
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1306 Deep brain stimulation (DBS) for movement disorders in 94 patients at a single center: Incidence of surgical complications and subjective outcomes
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1313 Identification of blood vessels with micro doppler ultrasound sonography in stereotactic functional neurosurgery via microelectrode guide tubes— A prototype of high value!
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1314 Derivation of dopaminergic neurons from human embryonic stem cells and IPS cells in animal-free conditions to use them in a treatment of Parkinson’s disease
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1315 Subthalamic (STN) deep brain stimulation (DBS) induced ipsilateral facial hyperhydrosis without mydriasis
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