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- Search the scientific program
- View schedule of events
- Learn about Dublin and all the city has to offer

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WELCOME LETTER

Dear Colleagues,

“Céad Míle Fáilte” – A hundred thousand welcomes!

On behalf of The Movement Disorder Society, we are honored to welcome you to Dublin for the 16th International Congress of Parkinson’s Disease and Movement Disorders!

We would like to express our gratitude to the large number of our volunteer committees for designing this International Congress including the Congress Local Organizing Committee for their hard work in arranging the Congress events that we are sure you will enjoy. We would especially like to thank the Congress Scientific Program Committee for their hard work and coordination of this superior Scientific Program.

Dublin (from the Irish Gaelic An Dubh Linn meaning ‘the black pool’) was established as a Viking settlement on the River Liffey over 1,000 years ago. The Anglo-Norman and subsequent English invasions followed. During the Georgian period, when it was the second largest city in the British Empire, Dublin became an important European cultural centre. This rich and varied history has left an indelible mark on this colourful and atmospheric city. Today, Dublin is a bustling metropolis with a population of over 1.7 million. Home to over 100 different nationalities, it has a genuinely cosmopolitan feel and yet retains its own distinct culture, which is expressed in a love of literature, drama and traditional music. Dublin is the European City of Science 2012 and is a designated Unesco City of Culture and is synonymous with such literary greats as Oscar Wilde, James Joyce and Samuel Beckett.

We are delighted to welcome you to Dublin for the 16th International Congress and thank you for taking the opportunity to be part of this exceptional Scientific Program. We promise an unparalleled learning opportunity.

“Le gach deá-ghuí” – with every good wish.

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

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

Timothy Lynch
Co-Chair,
Congress Scientific Program Committee,
2012
ACKNOWLEDGEMENTS

The International Congress Oversight Committee of the 16th International Congress of Parkinson’s Disease and Movement Disorders wishes to acknowledge and thank the following companies for their support:

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*These companies are confirmed as of May 3, 2012.
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

Win an iPad®

Take the MDS 2012 Website Survey during the Congress and enter to win one of three iPads®! Details at the MDS Booth and in Registration bags.

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1987-1988 Mario Manfredi, Italy
1985-1986 C. David Marsden, United Kingdom

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MDS MEMBERSHIP INFORMATION

Membership Benefits

- A subscription to the print and online journal, Movement Disorders, including supplemental publications, such as The Movement Disorder Society Evidence-Based Medicine Review Update: Treatments for the 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 2012, and full membership status, receiving the print journal, in January 2013. 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 21, 2012.

*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.

2012-2013 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:
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Website: www.movementdisorders.org
MDS 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 caliper 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 educational materials for sale. 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 under one of the three different and 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 Milan, Italy; Athens, Greece; Liverpool, UK; Naples, Italy; Innsbruck and Vienna, Austria; and Lviv, Ukraine (MDS/EFNS Regional Teaching Course). 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 details about MDS Regional Development initiatives, access to MDS-ES/EFNS European diagnosis and management recommendations, as well as information on fellowships, the MDS-ES/EFNS collaboration 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. Since its foundation, the MDS-AOS has developed educational programs in India, China, Malaysia, Sri Lanka, Vietnam, and Taiwan, among other locations. The official MDS-AOS website can be found at: www.movementdisorders.org/regional_sections/aos/ and includes a wealth of programming and Section information, including 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.

The following upcoming program originated under the auspices of the MDS-AOS:

Botulinum Toxin Training Course; Manila, Philippines; August 24-25, 2012

Despite increasingly widespread use of botulinum toxin (BoNT) for neurological rehabilitation and other disorders, there is rarely a recognized or regularly available training scheme on this topic in the Asian and Oceanian region. This two-day workshop is intended to address this practice gap through didactic lectures from international experts, interactive case discussions, and a patient practicum. The course is recommended for medical practitioners in relevant fields with a working knowledge of the diagnosis and general management of various movement disorders. For more information on the course or to register, please visit: www.movementdisorders.org/education/botulinum_toxin/manila/.

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, Georgia. The PAS Education Committee is chaired by Irene Litvan of the University of California San Diego. Over the past 12 months, PAS education courses have taken place in São Paulo, Brazil; Buenos Aires, Argentina; La Paz, Bolivia; and Santa Clara, New Haven, Chicago, and Houston, USA. The official MDS-PAS website can be found at: www.movementdisorders.org/regional_sections/pas/ and includes a wealth of programming and Section information, including 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.
MDS 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 conjoined with 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. Past programming has taken place in Guwahati, India; Manila, Philippines; Odessa, Ukraine; Braşov, Romania; and Ho Chi Minh City, Vietnam; among other locations.

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 should deliver a keynote lecture during the meeting. An honorarium is provided. Ambassador programs have been held in Puebla, Mexico; San José, Costa Rica; Dhaka, Bangladesh; Moscow, Russia; Tiradentes, Brazil; and Bamako, Mali; among other locations.

Visiting Professor Program
The Visiting Professor Program (VPP) supports the travel of 1-2 international experts. During the visit, invited experts should 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 in many locations throughout the world, including: Johannesburg, South Africa; Tbilisi, Georgia; Yerevan, Armenia; and Colombo, Sri Lanka.

SAVE-THE-DATE
17TH INTERNATIONAL CONGRESS OF PARKINSON’S DISEASE AND MOVEMENT DISORDERS
SYDNEY, AUSTRALIA
JUNE 16-20, 2013
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.

2012 MDS Video Games DVD
Recorded June 20, 2012 Dublin, Ireland
MDS is pleased to offer you the opportunity to view the MDS Video Games from the 16th International Congress. 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 two teams of 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.

Congress Teaching Courses and Themed Sessions
16th International Congress Teaching Courses and Themed Sessions
The Teaching Courses and Themed Courses for the 16th International Congress are available for preorder on the International Congress website at www.mdscongress2012.org.

MDS will produce a DVD of the Teaching Courses and a DVD of the Themed Sessions of the 16th International Congress of Parkinson’s Disease and Movement Disorders in Dublin, Ireland. 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 October 2012. The following Teaching Courses and Themed Sessions from previous Congresses are available to order at: www.movementdisorders.org/education/resources.php.

15th International Congress Teaching Courses
This DVD contains recordings of the Teaching Course Sessions of the 15th International Congress of Parkinson’s Disease and Movement Disorders in Toronto, ON, Canada. The DVD includes slides, audio and video of eight teaching courses and PDF syllabi for the Teaching Courses. The following topics are covered:

- 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
This DVD contains recordings of the Themed Sessions of the 15th International Congress of Parkinson’s Disease and Movement Disorders in Toronto, ON, Canada. The DVD includes slides, audio and video. The following topics are covered:

- 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

14th International Congress Teaching Courses
This DVD contains recordings of the Teaching Course Sessions of the 14th International Congress of Parkinson’s Disease and Movement Disorders in Buenos Aires, Argentina. The DVD includes slides, audio and video of seven teaching courses, as well as PDF syllabi. The following topics are covered:

- Differential diagnosis of parkinsonism
- Genetics of movement disorders
- Music and movement disorders
- Neuroimaging techniques and applications
- Neuropsychology of Parkinson’s disease
- Pediatric movement disorders
- Update on tremor

Other Educational Courses Available on DVD
The following DVD can be ordered at: www.movementdisorders.org/education/resources.php.

New Therapies for Advanced Parkinson’s Disease
The course New Therapies for Advanced Parkinson’s Disease was recorded at Duke University in Durham, NC, USA on October 29, 2010. The following topics are covered:

- Current treatments for motor complications in advanced Parkinson’s disease
- Parkinson’s disease: Future medications for fluctuations and dyskinesias
- Surgical interventions
- Depression and anxiety in Parkinson’s disease
- Dementia in Parkinson’s disease
- Psychosis in Parkinson’s disease
- Sleep/wake disorders in Parkinson’s disease
MDS EDUCATIONAL RESOURCES

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. 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/.

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. The knowledge of PD and movement disorders is expanding rapidly, and the need for concise information about clinical features, diagnosis, genetics and treatment is increasingly important. 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. Both standard approaches and new advances will be highlighted.
Each module is broken into sub-topics that are discussed in a short article and demonstrated in 1-5 case study videos. The scope of this project includes modules on: parkinsonism, tremor, dystonia, chorea, restless legs syndrome, and other topics as identified. These modules are being rolled out over several months, beginning with three modules covering tremors. After 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. At the beginning and completion of each module, participants are asked content-related questions to gauge their learning. 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. Coffee Break CME can be accessed at: www.mdscoffeebreakcme.org/.

General Movement Disorders Resources
The Basic Movement Disorders Curriculum
The Basic Movement Disorders (BMD) 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 BMD Curriculum, please visit: www.movementdisorders.org/education/bmd_curriculum/.
Request for use may also be included with an application to any of the MDS Outreach Education Programs at: www.movementdisorders.org/education/outreach_education.php.

Available topics:
- Basal ganglia anatomy and physiology
- Phenomenology of Movement Disorders
- Etiology and pathogenesis of Parkinson’s disease
- Diagnosis and differential diagnosis of Parkinson’s disease
- Management of early Parkinson’s disease
- Management of Advanced Parkinson’s disease
- Tremor
- Dystonias
- Chorea, athetosis and ballism
- Myoclonus
- Gait disorders
- Restless legs syndrome and movement disorders in sleep
- Management of MSA, PSP, and CBGD
- Tics and Tourette Syndrome
- Drug-Induced Parkinsonism (DIP)
- Psychogenic Movement Disorders
RATING SCALES AND TRAINING VIDEOS

Rating Scales
MDS provides rating scales and related resources published in 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 training program and rating scales use permission form 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)
- Measuring Health-Related Quality of Life in MDA (MSA-QoL)
- Non-Motor Symptoms Questionnaire (NMSQ)
- 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)
- Toronto Western Spasmodic Torticollis Rating Scale (TWSTRS)

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

Training Videos
The Movement Disorder Society publishes several audio-visuals, 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
(U DysRS)
Authored by C.G. Goetz, John 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)
(V suppress) (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 17 minutes.

Unified Parkinson’s Disease Rating Scale Training Video
(1995) Authored by C. G. Goetz, P.A. Lewitt, and M. Weidenman. 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 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.
RATING SCALES AND TRAINING VIDEOS

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.

Slide sets are available at: www.movementdisorders.org/membersonly/slidesets/.
Currently available slide sets are:
Ataxia (Jennifer G. Goldman MD)
Chorea (Kathleen M. Shannon MD)
The Diagnosis and Management of Dystonia (Steven J. Frucht MD)
Myoclonus: Diagnosis and Treatment (Steven J. Frucht MD)
Parkinsonism* (Kathleen M. Shannon MD)
Restless Legs Syndrome (Charles H. Adler MD)
Tics and Tourette Syndrome (Jennifer G. Goldman MD)
*This slide set is also available in Spanish.

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/.

MDS Website
www.movementdisorders.org

Have you visited us lately?

Special Features
Languages
Spanish, Chinese, Japanese, Italian
Case of the Month
Make your diagnosis
Editor’s Choice Article
Listen to a podcast review
Movement Disorders Journal
Read print and online versions
Rating Scales
View MDS-owned scales
Video Library
Watch all Journal videos
Quick Opinion Please
Join the discussion
MDS Mobile
Keep the Society close at hand

Education
Access to all CME and online courses
Health Professionals (Non-Physician)
Broaden the scope of care
MDS-UPDRS
Take the online Training Program & Exercise
MoveNet
Free access to some member benefits

MDS Connections

- Facebook
- Twitter
- YouTube
- LinkedIn
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

Target Audience
The target audience of the 16th 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 onsite in Dublin.

Accreditation Statements

ACCMC
The Movement Disorder Society is accredited by the Accreditation Council for Continuing Medical Education (ACCMC) to provide continuing medical education for physicians. The Movement Disorder Society designates this educational activity for a maximum of 35.5 AMA PRA Category 1 Credits™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Royal College of Physicians of Ireland
The Royal College of Physicians of Ireland will award up to 39 CPD credits for the Congress.

The Royal College of Physicians of the United Kingdom
The 16th International Congress of Parkinson’s Disease and Movement Disorders has been approved by the Federation of the Royal College of Physicians of the United Kingdom for 35 category 1 (external) CPD credit(s).

EACCME
The 16th 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 16th International Congress of Parkinson’s Disease and Movement Disorders is designated for a maximum of 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.

Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity. The EACCME credit system is based on 1 ECMEC per hour with a maximum of 3 ECMECs for half a day and 6 ECMECs for a full-day event.
CME INFORMATION

Claiming CME/CPD Credit
To claim CME credit for your participation in the MDS 16th 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 21st.

Instructions for claiming credit:
• After June 21st, visit www.mdscongress2012.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.

MDS Website: Your ‘Communications Hub’ at Congress and all year-round

The MDS website is reaching out to more members with its multilingual content and social media presence. Sections of the website are now in Japanese, Chinese, Spanish and Italian! In addition, stay connected with colleagues and friends when you visit the Society’s Facebook or LinkedIn pages. View videos from past Congresses on the Society’s YouTube Channel or follow MDS @movedisorder on Twitter to get regular updates about news and activities from the Society.

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 MDS Journal, Case of the Month, Quick Opinion Please, Video Library, and the Online 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 CME and professional development opportunities which are offered throughout the year from locales around the globe. Congresses, workshops, conferences and seminars are listed and updated regularly on the website.

MoveNet, a free online directory for members and non-members alike, 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.

Other website features and tools include:
• Editor’s Choice Article with Podcast Review
• MDS-Owned Rating Scales at your fingertips
• MDS-UPDRS Training Program & Exercise
• EBM Reviews and Position Papers
• Podcasts of the latest Movement Disorders abstracts
• Health Professionals (Non-Physician) resource page
• Extensive Video Library
• Links to affiliated international organizations
• Moving Along newsletter

Twitter at the Congress. Stay on top of the 16th International Congress by following tweets that have this hashtag: #MDSCongress2012. Be sure to use this hashtag to search for Congress related topics at the conference.
INTERNATIONAL CONGRESS INFORMATION A-Z

Abstracts
All accepted abstracts are presented as a poster at the 2012 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 sections for the listing of daily presentations. For a complete listing of abstracts by topic, please see page 76-128.

Late-Breaking Abstracts
All Late-Breaking Abstract posters are displayed in The Forum Monday – Thursday throughout the duration of the Congress.

Late-Breaking Abstract Poster Presentations will take place Wednesday, June 20 from 12:00 – 13:30 in The Forum. A print supplement of the Late-Breaking Abstracts is available in the Congress registration bag.

Abstracts On CD-ROM
All abstracts are published in the supplement to the MDS Journal are available on CD-ROM at the registration desk.

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

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

Camera Policy
Cameras are not permitted in any 16th International Congress educational sessions or in the poster area.

Certificate of Attendance
A certificate of attendance is available in the back of the 2012 Final Program.

Coffee Breaks
Please check the Program-at-a-Glance, page 30, for scheduled daily breaks. Coffee and tea will be served on Sunday in the Foyer Levels 1 & 3, and Monday – Thursday in The Forum Level 3.

Congress Information Desk
Location: Ground Level Foyer

Continuing Medical Education (CME)
Please refer to page 13-14 for Continuing Medical Education information.

Currency
The local currency in Dublin is the Euro. The exchange rate for US Dollars as of May 21, 2012 is: 1 USD = 0.78 Euro.

Evaluations
Please take time to complete the evaluation forms provided for 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 (The Forum).

Congress Events
Sunday, June 17, 2012
Welcome Ceremony
19:00 – 21:00
Location: The Auditorium, Levels 3, 4, 5

All International Congress attendees are warmly invited to meet friends and colleagues during the traditional International Congress Welcome Ceremony at The Convention Centre Dublin. This event is open to all registered delegates. Guests are able to purchase a Welcome Ceremony Pass that will allow them admission to this event; please check at the Registration Desk for availability.

Tuesday, June 19, 2012
Lúnasa and the Brain
20:00
The National Concert Hall
Earlsfort Terrace, Dublin 2, Ireland

The RTÉ Concert Orchestra invites you on an exploration of music and movement with Professor Steven Frucht as he focuses on the science of learning music and the effect this has on the brain followed by a full concert performance with Irish traditional phenomenon Lúnasa and the RTÉ Concert Orchestra. Music and the brain is an area of endless fascination - what governs hearing, learning, playing. The performance will be held at the National Concert Hall in Dublin rated by performing artists as one of the finest concert venues in Europe.

Tickets are $35 USD and can be purchased at the Registration desk.

Lúnasa and the Brain is brought to you by the RTÉ Concert Orchestra in partnership with The Movement Disorder Society.
Wednesday, June 20, 2012
MDS Video Games
19:00 – 23:00
Location: The Auditorium, Levels, 3, 4, 5

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 two teams of Experts. Awards will be given for the most interesting and challenging cases and the teams of Experts will compete for the highest number of correct diagnoses that they make. 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 two teams of Experts are:

TEAM 1:
Alberto Espay, Cincinnati, OH, USA
Daniel Healy, Dublin, Ireland
Christine Klein, Lübeck, Germany
Marcelo Merello, Buenos Aires, Argentina

VS.

TEAM 2:
Bastiaan Bloem, Nijmegen, Netherlands
Hubert Fernandez, Cleveland, OH, USA
Thomas Warner, London, United Kingdom
Ruey-Meei Wu, Taipei, Taiwan

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: The Forum
For more information, please refer to pages 56-67.

Exhibit Hall hours are as follows:
Monday, June 18 .................. 10:00 – 18:30
Tuesday, June 19 .............. 10:00 – 18:00
Wednesday, June 20 ............ 10:00 – 18:00
Thursday, June 21 .............. 9:30 – 15:00

Floor Plans of the Convention Centre Dublin
Please refer to page 20.

Food For Purchase
Concessions will be available for purchase Sunday – Thursday in the Ground Level Foyer, as well as Monday – Thursday in the Forum (Exhibit Hall).
INTERNATIONAL CONGRESS INFORMATION A-Z

Internet Café
Location: The Forum, Ground Level
Internet access is available for meeting attendees in the The Forum. Please limit your Internet use to 15 minutes to allow other attendees use of this service.

Open hours are as follows:
Monday, June 18 ...............10:00 – 18:30
Tuesday, June 19 ..............10:00 – 18:00
Wednesday, June 20 ...........10:00 – 18:00
Thursday, June 21 .............9:30 – 15:00

MDS Booth
Location: The Forum, Ground Level
The Movement Disorder Society (MDS) is an international society of healthcare professionals committed to research and patient care in the fields of Parkinson’s disease and other disorders of movement and motor control.

Created not only to further the goals and objectives of MDS International, The Movement Disorder Society’s regional sections, the Asian and Oceanian Section and European Section strive to increase the interest, education and participation of neurologists, Movement Disorder specialists, non-Movement Disorder specialists, trainees, allied health professionals and scientists in the Asian, Oceania and European regions.

MDS supports and promotes a wide range of educational programming and other initiatives to advance scientific understanding and standards of care as they pertain to Movement Disorders. For this, MDS provides forums such as a high-ranking journal, scientific symposia and International Congresses.

Attendees are invited to take advantage of MDS member benefits by applying to the Society. Learn more about MDS initiatives and speak with a representative at the MDS.

The MDS Booth hours are as follows:
Monday, June 18 ...............10:00 – 18:30
Tuesday, June 19 ..............10:00 – 18:00
Wednesday, June 20 ...........10:00 – 18:00
Thursday, June 21 .............9:30 – 15:00

MDS-Unified Parkinson’s Disease Rating Scale Training Program & Exercise
Location: Wicklow Meeting Room 4, Level 2
• 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 MDS-UPDRS Training Room hours are as follows:
Sunday, June 17 ...............12:30 – 14:00
Monday, June 18 ..............12:45 – 15:45
Tuesday, June 19 ..............12:15 – 15:15
Wednesday, June 20 ..........12:00 – 15:00
Thursday, June 21 ..........12:00 – 15:00

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

Poster Session Schedule
All poster sessions will take place in the Linear Park Marquee, located just west of The Convention Center exterior.

Sunday, June 17, 12:30 – 14:00
Poster viewing: 9:00 – 18:00
Abstract numbers: 1-276
Clinical Electrophysiology (Marquee 4)
Wilson’s disease, storage and metabolic movement disorders (Marquee 4)
Pediatric movement disorders (Marquee 3)
Lewy Body Dementia and other dementias in movement disorders (Marquee 3)
Huntington’s disease (Marquee 3)
Parkinson’s disease: Neuropharmacology (Marquee 3)
Parkinson’s disease: Cognition (Marquee 2)
Epidemiology (Marquee 1)

Monday, June 18, 12:45 – 14:15
Poster viewing: 9:00 – 18:00
Abstract numbers: 277-611
Ataxia (Marquee 4)
Quality of life/caregiver burden in movement disorders (Marquee 3)
Surgical Therapy: Parkinson’s disease (Marquee 3)
Gene Therapies (Marquee 3)
Parkinson’s disease: Clinical trials (Marquee 2&3)
Spasticity (Marquee 2)
Parkinson’s disease: Rating scales (Marquee 1&2)
Rating scales (Marquee 1)
History (Marquee 1)

Tuesday, June 19, 12:15 – 13:45
Poster viewing: 9:00 – 18:00
Abstract numbers: 612-945
Parkinson’s disease: Quality of Life/Caregiver burden (Marquee 3&4)
Education in movement disorders (Marquee 3)
Parkinson’s disease: Behavioral disorders (Marquee 3)
Neuroimaging (Marquee 2&3)
Parkinson’s disease: Sleep disorders (Marquee 2)
Parkinson’s disease: Electrophysiology (Marquee 1&2)
Myoclonus (Marquee 1)
INTERNATIONAL CONGRESS INFORMATION A-Z

**Wednesday, June 20, 12:00 – 13:30**
Poster viewing: 9:00 – 18:00  
Abstract numbers: 946-1281  
- Tremor (Marquee 4)  
- Restless legs syndrome (Marquee 3)  
- Parkinsonism (Marquee 3)  
- Dystonia (Marquee 2&3)  
- Chorea (non-Huntington’s disease) (Marquee 2)  
- Surgical Therapies: other movement disorders (Marquee 1)

**Thursday, June 21, 12:00 – 13:30**
Poster viewing: 9:00 – 16:00  
Abstract numbers: 1282-1598  
- Parkinson’s disease: Phenomenology (Marquee 3&4)  
- Basic Science (Marquee 3)  
- Genetics (Marquee 2)  
- Parkinson’s disease: Dystautonomia (Marquee 2)  
- Tics/Stereotypies (Marquee 2)  
- Drug-induced movement disorders (Marquee 1)  
- Neuropharmacology (Marquee 1)

**Poster Session Schedule**  
(listed alphabetically by topic):
- Ataxia (Monday, June 18, 12:45 – 14:15, Marquee 4)  
- Basic Science (Thursday, June 21, 12:00 – 13:30, Marquee 3)  
- Chorea (non-Huntington’s disease)  
  (Wednesday, June 20, 12:00 – 13:30, Marquee 2)  
- Clinical Electrophysiology  
  (Sunday, June 17, 12:30 – 14:00, Marquee 4)  
- Drug-induced movement disorders  
  (Thursday, June 21, 12:00 – 13:30, Marquee 1)  
- Dystonia (Wednesday, June 20, 12:00 – 13:30, Marquee 2&3)  
- Education in movement disorders  
  (Tuesday, June 19, 12:15 – 13:45, Marquee 1)  
- Epidemiology (Sunday, June 17, 12:30 – 14:00, Marquee 1)  
- Gene Therapies (Monday, June 18, 12:45 – 14:15, Marquee 3)  
- Genetics (Thursday, June 21, 12:00 – 13:30, Marquee 2)  
- History (Monday, June 18, 12:45 – 14:15, Marquee 1)  
- Huntington’s disease  
  (Sunday, June 17, 12:30 – 14:00, Marquee 3)  
- Lewy Body Dementia and other dementias in movement disorders  
  (Sunday, June 17, 12:30 – 14:00, Marquee 3)  
- Myoclonus (Tuesday, June 19, 12:15 – 13:45, Marquee 1)  
- Neuroimaging (Tuesday, June 19, 12:15 – 13:45, Marquee 2&3)  
- Parkinsonism (Wednesday, June 20, 12:00 – 13:30, Marquee 3)  
- Parkinson’s disease: Behavioral disorders  
  (Tuesday, June 19, 12:15 – 13:45, Marquee 3)  
- Parkinson’s disease: Clinical trials  
  (Monday, June 18, 12:45 – 14:15, Marquee 2&3)  
- Parkinson’s disease: Cognition (Sunday, June 17, 12:30 – 14:00, Marquee 2)  
- Parkinson’s disease: Dystautonomia  
  (Thursday, June 21, 12:00 – 13:30, Marquee 2)  
- Parkinson’s disease: Electrophysiology  
  (Tuesday, June 19, 12:15 – 13:45, Marquee 1&2)  
- Parkinson’s disease: Neuropharmacology  
  (Sunday, June 17, 12:30 – 14:00, Marquee 3)  
- Parkinson’s disease: Phenomenology  
  (Thursday, June 21, 12:00 – 13:30, Marquee 3&4)  
- Parkinson’s disease: Quality of Life/Caregiver burden  
  (Tuesday, June 19, 12:15 – 13:45, Marquee 3&4)  
- Parkinson’s disease: Rating scales  
  (Monday, June 18, 12:45 – 14:15, Marquee 1&2)  
- Parkinson’s disease: Sleep disorders  
  (Tuesday, June 19, 12:15 – 13:45, Marquee 2)  
- Pediatric movement disorders  
  (Sunday, June 17, 12:30 – 14:00, Marquee 3)  
- Quality of life/caregiver burden in movement disorders  
  (Monday, June 18, 12:45 – 14:15, Marquee 3)  
- Rating scales (Monday, June 18, 12:45 – 14:15, Marquee 1)  
- Restless legs syndrome  
  (Wednesday, June 20, 12:00 – 13:30, Marquee 3)  
- Spasticity (Monday, June 18, 12:45 – 14:15, Marquee 2)  
- Surgical Therapies: other movement disorders  
  (Wednesday, June 20, 12:00 – 13:30, Marquee 1)  
- Surgical Therapy: Parkinson’s disease  
  (Monday, June 18, 12:45 – 14:15, Marquee 3)  
- Tics/Stereotypies  
  (Thursday, June 21, 12:00 – 13:30, Marquee 2)  
- Tremor (Wednesday, June 20, 12:00 – 13:30, Marquee 4)  
- Wilson’s disease, storage and metabolic movement disorders  
  (Sunday, June 17, 12:30 – 14:00, Marquee 4)

**Press Room**  
Location: Wicklow Meeting Room 2b, Level 2

Members of the working media receive waived registration for the 16th International Congress. Journalists and writers should report to the Press Room with their credentials to register for the International Congress and wear their name badge for admittance into MDS sessions.

The Press Room will be open during the following hours:
- Sunday, June 17 .......................... 9:00 – 17:00  
- Monday, June 18 .......................... 9:00 – 17:00  
- Tuesday, June 19 .......................... 9:00 – 17:00  
- Wednesday, June 20 ...................... 9:00 – 17:00  
- Thursday, June 21 ....................... 9:00 – 16:00
INTERNATIONAL CONGRESS INFORMATION A-Z

Registration
Location: Ground Level, Foyer

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

Registration Desk hours are as follows:
Saturday, June 16 ............... 16:00 – 20:00
Sunday, June 17 ............... 7:00 – 18:00
Monday, June 18 ............... 7:00 – 18:00
Tuesday, June 19 ............... 7:00 – 18:00
Wednesday, June 20 .......... 7:00 – 18:00
Thursday, June 21 .......... 7:00 – 16:00

Please note that these hours are subject to change.

Scientific Sessions
The 2012 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:
• Behavioral and motor interfaces of movement disorders: From laboratory to patient care
• 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

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

Speaker Ready Room
Location: Wicklow Meeting Room 3, Level 2

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

The Speaker Ready Room hours are as follows:
Saturday, June 16 ............... 16:00 – 20:00
Sunday, June 17 ............... 7:00 – 18:00
Monday, June 18 ............... 7:00 – 18:00
Tuesday, June 19 ............... 7:00 – 18:00
Wednesday, June 20 .......... 7:00 – 18:00
Thursday, June 21 .......... 7:00 – 16:00

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

*Guided Poster Tour tickets are available at the MDS Booth The Forum.

Plenary Sessions and general Poster Sessions do not require a ticket to attend.

Venue
The Convention Centre Dublin
Spencer Dock, North Wall Quay
Dublin 1
Ireland

Weather
The average daytime temperature in Dublin in June is about 57° F (14° C).
INTERNATIONAL CONGRESS FLOOR PLAN

**Ground Level**
- The Forum
- Registration
- Exhibit Hall

**Level 1**
- Liffey Meeting Rooms 1-5
- Liffey Boardrooms 1-4
- Guided Poster Tours
- Breakouts

**Level 2**
- Wicklow Meeting Rooms 1-5
- Press Room
- UPDRS Training Room
- Leadership/Faculty Lounge
- Speaker Ready Room
- Guided Poster Tours
- Breakouts

**Levels 3/4/5**
- The Auditorium
- Plenary Sessions
- Welcome Ceremony
- Breakouts
- MDS Video Games

**Level 2**
- Wicklow Halls 1 and 2
- Guided Poster Tours
- Breakouts

**Level 1**
- The Liffey
- Liffey Halls 1 and 2
- Guided Poster Tours
- Breakouts
Dublin Information

DOCKLANDS AREA MAP

TOP ATTRACTIONS IN DUBLIN

Guinness Storehouse
Just outside the city center, the Guinness Storehouse is one of Dublin’s most popular tourist attractions. Visitors can experience the Guinness craft firsthand with guided tours and beer tasting. The Gravity Bar, located on the seventh floor, offers a beautiful panoramic view of Dublin.

Temple Bar
This stylish and artsy neighborhood features a variety of trendy restaurants, galleries, shopping centers, theatres and pubs. Here, you can easily find live music, free street theatre, and modern art juxtaposed with Temple Bar’s characteristic narrow, cobbled streets.

Kilmainham Gaol
Close to the Guinness Storehouse, Kilmainham Gaol is a former political prison which housed many famous independence fighters. Opened in 1796, it closed in 1924 but was restored in the 1960s to serve as a reminder of the heartbreak and heroism of Ireland’s historic fight for independence.
TOP ATTRACTIONS IN DUBLIN

Trinity College
Founded by Queen Elizabeth I in 1592, Trinity College is Ireland's most famous college, and is located within walking distance of the Convention Centre. Here, you can take a guided walking tour of the beautiful campus, led by one of the students (please check for times / availability). Trinity College's biggest attractions include the Book of Kells in the Old Library and a 15th century harp, the oldest harp in Ireland.

National Museum
Just south of Trinity College, the National Museum houses some of the largest collections of Irish artifacts. Recording Ireland's history from the Stone Age to today, visitors will find Celtic jewelry, Irish art, Viking artifacts, and detailed exhibitions. The building itself is a piece of art on its own, with a large rotunda, marble pillars, and mosaic floors.

Dublin Castle
Originally a Viking fortress, the Dublin Castle now serves as an administrative and historical site. The State Apartments are open for visitors who wish to learn more about British rule in Ireland. Many smaller museums are contained within Dublin Castle, including The Revenue Museum, The Garda (Police) Museum, the Chapel Royal, and the Chester Beatty Library.

Grafton Street
This popular and fashionable shopping area has a variety of department stores, restaurants, and cafes to explore, including the famous Bewley's Oriental Café. The street is blocked off from traffic for a pedestrian and tourist friendly shopping experience. Walking south on Grafton Street will take you to St. Stephen's Green, a beautiful 22 acre enclosed park that offers a quiet refuge for tourists and Dubliners alike.

Phoenix Park
An urban park in Dublin, lying 2–4 km west of the city centre, just north of the River Liffey, is one of the largest walled city parks in Europe. The park includes large areas of grassland and tree-lined avenues, and is home to a herd of wild Fallow deer.

Number Twenty Nine Georgian House Museum
Located within walking distance of the Convention Centre, this home was first built in 1794 and was opened as a museum in 1991. Refurnished with original furniture and décor from the time period, visitors will experience firsthand the elegance of the wealthy Dublin elite in the late 18th century.

Merrion Square
This 12 acre Georgian square is within walking distance of the Convention Centre and offers a beautiful view of the famous 18th century terrace homes and their brightly colored doors. Merrion Square is also home to the National Gallery, a free museum containing over 15,000 Irish and European artworks, as well as the Natural History Museum.

St. Patrick’s Cathedral and Marsh’s Library
Origin of Jonathan Swift’s Gulliver’s Travels, Marsh’s Library is situated in St. Patrick’s Close, adjacent to St. Patrick’s Cathedral, Dublin, and is the oldest public library in Ireland. It was built to the order of Archbishop Narcissus Marsh in 1701 and has a collection of over 25,000 books and 300 manuscripts.
MDS AWARDS

Honorary Membership Awards
Sunday, June 17
Welcome Ceremony
19:00 – 21:00
Location: The Auditorium, Levels 3, 4, 5

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

Mark Hallett, MD
Bethesda, MD, USA

Eduardo Tolosa, MD
Barcelona, Spain

President’s Distinguished Service Award
Sunday, June 17
Welcome Ceremony
19:00 – 21:00
Location: The Auditorium, Levels 3, 4, 5

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

Stanley Fahn Lecture
Wednesday, June 20 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 Edgelands of the Shaking Palsy
Stanley Fahn Lecturer – Andrew Lees, MD, FRCP

born on Merseyside, Andrew Lees qualified in medicine at the Royal London Hospital Medical College in 1970. His neurological training was at University College London Hospitals and the National Hospital for Neurology and Neurosurgery, Queen Square. He also spent time at L’Hopital Salpetriere in Paris. At the age of thirty-two he was appointed to the consultant staff at the National Hospitals, The Middlesex, and Whittington Hospitals and in 1987 he was elected a Fellow of the Royal College of Physicians. He was later appointed Professor of Neurology at the National Hospital for Neurology and Neurosurgery, Queen Square and in 1998 became Director of the Reta Lila Weston Institute for Neurological Studies. He is Clinical Director of the Queen Square Brain Bank for Neurological Disorders and Director of the Sara Koe PSP Research Centre. Professor Lees is a Visiting Professor at the University of Liverpool and has close collaborations with a number of Brazilian universities. For his contributions to Brazilian neurology he was elected an overseas member of the Academia Nacional de Medicina and the Academia Brasileira de Neurologica. In 2007 he was elected Fellow of the Academy of Medical Sciences and received a NIHR Senior Investigators Award in 2008.

Professor Lees has achieved international recognition for his work on Parkinson’s disease and abnormal movement disorders and served as President of The Movement Disorder Society from 2004-2006. In 2006, he was awarded the Movement Disorders Research Award by the American Academy of Neurology. In the last four years he has delivered the Gowers Memorial Lecture at the National Hospital, The inaugural Lord Brain Memorial Lecture at Barts and the Royal London Hospitals and the David Marsden Memorial Lecture at the EFNS. He was Co-Editor in Chief of The Movement Disorders Journal from 1995-2003, and is an original member of the Highly Cited Researchers ISI Database with a H-index of 85.

C. David Marsden Lecture
Wednesday, June 20 as part of 4103 Plenary Session IX: The Presidential Lectures
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.
MDS AWARDS

Using Genetic Analysis to get at the Biology of Parkinson’s disease
C. David Marsden Lecturer – John Hardy, MD

Department of Molecular Neuroscience and Reta Lila Weston Laboratories, UCL Institute of Neurology UK

John Hardy received his degree in Biochemistry from Leeds in 1976 and his PhD from Imperial College in Neuropsychopharmacology in 1979. He did postdocs at the MRC Neuropathogenesis Unit and the Swedish Brain Bank, in Umea, where he started to work on Alzheimer’s disease. In 1985 he took the job of Lecturer in Biochemistry and Molecular Genetics at St Mary’s Hospital, Imperial College, where he began working on the genetics of Alzheimer’s disease.

In 1991 Dr. Hardy led the group which found the first mutation in the amyloid gene which caused Alzheimer’s disease. This finding led him and others to formulate the amyloid hypothesis for the disease. In 1992 he moved to the United States, to the University of South Florida. In 1996 he moved to the Mayo Clinic where he became Chair of the Department of Neuroscience in 2000. In 1998 he was part of the consortium which identified mutations in the tau gene in Pick’s disease, and in 2001 Dr. Hardy moved to the NIH to become the Chief of the Laboratory of Neurogenetics, where he was part of the group which found triplications in the synuclein gene caused Parkinson’s disease. He returned to the Department of Molecular Neuroscience at the Institute of Neurology in 2007.

Dr. Hardy has won the Allied Signal, Potamkin, MetLife and Kaul Prizes, for his work on Alzheimer’s disease and the Anna Marie Opprechtt Prize for his work on Parkinson’s disease. Just recently he was awarded the 2011 Khalid Iqbal Lifetime Achievement Award in Alzheimer’s Disease Research and the IFRAD 2011 European Grand Prize for Alzheimer’s Research. He has been elected a member of the Academy of Medical Sciences and has been awarded an honorary MD by the University of Umea, Sweden. He was made an FRS by the Royal Society in 2009 and in 2010 was awarded an honorary Doctor of Science degree by the University of Newcastle. He has three adult children and two grandchildren who live in the US.

Junior Awards

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

Wednesday, June 20 as part of 4103: Plenary Session IX: Presidential Lectures
8:30 – 9:30
Chairs: Günther Deuschl, Matthew Stern

Marios Politis, MD, MSc, PhD
London, United Kingdom

Serotonergic mediated peak-dose L-DOPA-induced dyskinesias in Parkinson’s disease

Marios Politis, MD, PhD, Kit Wu, MRCP, Clare Loane, BSc, Lorenzo Kiferle, MD, Sophie Molloy, MD, Peter Bain, PhD, David Brooks, PhD and Paola Piccini, PhD. 1Centre for Neuroscience, Division of Experimental Medicine, Imperial College, London, United Kingdom

Objective: To investigate the role of serotonergic (5-HT) terminals in peak-dose L-DOPA-induced dyskinesias (LIDs) in Parkinson’s disease (PD).

Background: Peak-dose LIDs have been suggested to result from loss of buffering capacity of degenerating dopamine (DA) terminals leading to excessive/sudden release of L-DOPA derived DA. Positron emission tomography (PET) studies have shown increased DA turnover in PD patients with LIDs. Animal models of PD have shown that striatal 5-HT terminals cause or aggravate LIDs by mishandling exogenous L-DOPA and releasing DA as a false neurotransmitter and that administration of 5-HT agonists improve LIDs. However, this mechanism has not been tested in PD patients.

Methods: We studied 16 PD patients with peak-dose LIDs and 12 PD patients with stable response to L-DOPA using 11C-DASB (marker of 5-HT transporter availability) and 11C-raclopride (RAC) (marker of DA type 2 receptor availability) PET, and medication challenges with suprathreshold doses of L-DOPA and 5-HT1A agonist (Buspirone).

Results: No significant differences were found in striatal 11C-DASB binding (BPND) between PD patients with LIDs and stable response to L-DOPA. PD patients with LIDs showed 18.0±2.2 % (mean ± SE) reduction (compared to baseline) in putaminal RAC BPND after a L-DOPA challenge reflecting high synaptic DA turnover, while the reduction in putaminal RAC BPND in the PD stable group after a L-DOPA challenge was considerable less (8.0±2.0 %). When administration of Buspirone (0.35mg per Kg) preceded that of L-DOPA, putaminal RAC BPND in the PD patients with LIDs was reduced to 12.6±2.3% (p<0.05), while release in the stable PD...
group was largely unaffected. Clinically, PD patients with LIDs after administration of both Buspirone and L-DOPA showed significant attenuation on their LIDs at t=60 to t=105min (p<0.05) in a 150min follow-up.

**Conclusions:** These data indicate a key role of 5-HT terminals in peak-dose LIDs in PD and justify the use and development of 5-HT1A agonists. While 5-HT terminals in PD patients with LIDs are preserved, the significant loss of DA terminals results in 5-HT mediated dysregulated release of DA and consequently LIDs. 5-HT1A agonists have the ability to dampen the transmitter release from 5-HT neurons, alleviate excessive synaptic DA levels and thus attenuate LIDs.

Norbert Brüggemann, MD
Lübeck, Germany

**Beneficial prenatal levodopa therapy in autosomal recessive GTP cyclohydrolase I deficiency**

Norbert Brüggemann, MD¹, Juliane Spiegler, MD², Yorck Hellenbroich, MD³, Thomas Opladen, MD⁴, Susanne A Schneider, MD⁵, Rainer Boor, MD⁵, Ulrich Stephani, MD⁶, Gabriele Gillessen-Kaesbach, MD³, Jürgen Sperner, MD⁵ and Christine Klein, MD¹.¹ Section of Clinical and Molecular Neurogenetics at the Department of Neurology, University of Lübeck, Lübeck, Germany; ²Departement of Pediatrics, University of Lübeck, Lübeck, Germany; ³Institut für Humangenetik, University of Lübeck, Lübeck, Germany; ⁴Division of Inborn Metabolic Diseases, University Children’s Hospital Heidelberg, Heidelberg, Germany; ⁵Northern epilepsy center for children and adolescents, Schwentineital/Raisdorf, Germany and ⁶Department of Neuropediatrics, University of Kiel, Kiel, Germany.

**Objective:** To report the first prenatal dopaminergic replacement therapy in autosomal recessive GTP cyclohydrolase (AR GTPCH) deficiency without hyperphenylalaninemia.

**Background:** AR GTPCH deficiency without hyperphenylalaninemia is a rare form of dopa-responsive dystonia presenting with a complex phenotype, distinct clinical features and an infantile onset in most cases. Prenatal diagnosis and initiation of dopaminergic replacement therapy have not been described so far.

**Methods:** Mutation analysis of the GCH1 gene, longitudinal case descriptions.

**Results:** The figure shows the pedigree of a consanguineous family with two siblings (IV.1 and IV.2, filled symbols) carrying homozygous mutations in the GTP cyclohydrolase 1 (GCH1) gene.

Confirmed asymptomatic carriers of a single GCH1 mutation are marked by a dot.

In fibroblasts of IV.1, the GTPCH activity was considerably reduced with values between 17 and 31%. He presented with typical features of AR GTPCH deficiency including truncal dystonia, severe spastic tetraparesis, lack of head control as well as intermittent opisthotonus and oculogyric crises. Levodopa treatment was initiated at the age of 10 months and resulted in a distinct motor improvement including a complete resolution of spasticity. Re-occurrence of oculogyric crises, spasticity and abnormal head position were good clinical predictors for the necessity to increase the levodopa dosage. Mental development was, however, moderately delayed despite levodopa treatment.

In the younger sibling IV.2, prenatal replacement therapy was initiated after a prenatal diagnosis of AR GTPCH deficiency was made. At the age of 17 months, both motor and mental development was normal for his age.

**Conclusions:** Reduced dopaminergic neurotransmission in the developing brain of children may result in an impairment of motor and mental maturation. This report highlights the importance of an early diagnosis, including prenatal diagnosis, of complex dopa-responsive extrapyramidal syndromes.

Karin Tuschl, MD
London, United Kingdom

**Syndrome of hepatic cirrhosis, dystonia, polycythaemia and hypermanganesaemia - caused by mutations in SLC30A10, a manganese transporter in man**

Karin Tuschl, MD¹, Peter T Clayton, MD¹, Sidney M Gospe Jr., MD, PhD², Gulab Shamshad, FCPSE³, Shahnaz Ibrahim, FCPSE³, Prathiba Singhi, MD², Reinaldo T Ribeiro, MD³, Maha S Zaki, PhD³, Maria Luz del Rosario, MD⁴, Sarah Dyack, MD⁵, Victoria Price, MD⁶, Ron A Wevers, PhD² and Philippa B Mills, PhD¹.¹ Clinical and Molecular Genetics Unit, UCL Institute of Child Health, London, United Kingdom; ²University of Washington and Seattle Children’s Hospital, Seattle, WA, United States; ³Aga Khan University.
Awards Information

**MDS AWARDS**

Hospital, Karachi, Pakistan; 4Postgraduate Institute of Medical Education and Research, Chandigarh, India; 5Federal University of Sao Paulo, Sao Paulo, Brazil; 6National Research Center, Cairo, Egypt; 7St. Lukes Medical Center, Quezon City, Philippines; 8IWK Health Centre, Halifax, NS, Canada and 9Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands.

**Objective:** To identify the genetic defect underlying a syndrome of hepatic cirrhosis, dystonia, polycythaemia and hypermanganesaemia [MIM613280].

**Background:** We have recently reported a suspected autosomal recessively inherited disorder of manganese (Mn) metabolism (Tuschi et al., JIMD, 2008) and have identified 18 patients from 9 families affected by this disease. Patients present in early childhood with difficulties walking and fine motor impairment due to dystonia and many become wheelchair bound in their teens. Some die of liver cirrhosis at a young age. They have high levels of whole-blood Mn with accumulation of Mn in the brain and liver leading to characteristic MRI brain appearances with high signal return from the globus pallidus on T1 weighted sequences.

**Methods:** Whole genome mapping was performed using an Illumina CytoSNP-12 and the candidate gene sequenced on an ABI DNA sequencer. Expression studies were performed in the Mn sensitive yeast strain Δmpr1 using Gateway technology (Invitrogen). Wild-type cells BY4743 and Δmpr1 cells transformed with empty vector pYES-Dest52, wild-type SLC30A10 and SLC30A10 carrying a nonsense and a missense mutation were grown on SC-Ura plates supplemented with or without 1.5 mM MnCl2.

**Results:** Homozygosity mapping of two consanguineous families identified SLC30A10, a previously presumed zinc transporter, as the affected gene in this inherited form of hypermanganesemia. Homozygous sequence changes in SLC30A10 were found in all affected individuals. Expressing human wild-type SLC30A10 in the Δmpr1 yeast strain rescued growth in high Mn conditions confirming its role in Mn transport. The presence of missense (c.266T>C, Leu89Pro) and nonsense (c.585del, Thr196Profs*17) mutations in SLC30A10 failed to restore Mn resistance.

**Conclusions:** We have confirmed that SLC30A10 functions as a Mn transporter in man that, when defective, causes a syndrome of hepatic cirrhosis, dystonia, polycythaemia and hypermanganesaemia. This is an important step towards understanding Mn transport and its role in neurodegenerative processes.
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The 2012 Travel Grant Program was partially supported by an unrestricted educational grant from Merz Pharmaceuticals, LLC.
MDS 16TH INTERNATIONAL CONGRESS SESSION DEFINITIONS

Blue Ribbon Session:
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 give small groups of delegates an opportunity to hear discussion on a select group of abstracts in several sub-categories. Delegates interested in attending a Guided Poster Tour may pick up a tour ticket at the MDS Booth beginning Monday, June 18. Attendance is limited, and tickets will be given on a first-come, first-served basis. Delegates are encouraged to sign up early to ensure availability.

There will be four simultaneous tours per day from Monday, June 18 through Thursday, June 21.

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 two 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:
The perils and promises of genetics in movement disorders
At each annual International Congress, the Congress Scientific Program Committee selects a theme that is highlighted throughout the meeting. This year’s theme, “The perils and promises of genetics in movement disorders” will be showcased in two Plenary Sessions, five Parallel Sessions, three Skills Workshops, one Teaching Course, and two Video Sessions. International experts will serve as faculty, and the presentations will run the gamut of the field, from new research to practical applications. Meeting participants can elect to attend any or all of the sessions.

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**Program-at-a-Glance**

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SUNDAY, JUNE 17, 2012

1105 Therapeutic Plenary Session I
Novel neuropharmacological approaches to treating Parkinson’s disease: Hope or hype?
8:00 – 10:00
Location: The Auditorium, Levels 3, 4, 5
Chairs: Olivier Rascol
Toulouse, France
Michael Schwarzschild
Sharon, MA, USA

8:00 How to deliver the promise of neurotropic factors in Parkinson’s disease
C. Warren Olanow
New York, NY, USA

8:40 Making dopamine treatments better: Still flogging a dead horse?
Donald Grosset
Glasgow, United Kingdom

9:20 Novel non-dopaminergic targets for the motor symptoms of Parkinson’s disease
Michael Schwarzschild
Sharon, MA, USA

At the conclusion of this session, participants should be better able to:
1. Understand issues related to the use and delivery of neurotropic factors as possible therapeutic options for Parkinson’s disease
2. Describe novel dopaminergic agents in development and new delivery systems for levodopa/apomorphine
3. Outline the rationale for non-dopaminergic strategies in development for the motor symptoms of Parkinson’s disease
Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

1106 Therapeutic Plenary Session II
Recent developments in Deep Brain Stimulation
10:30 – 12:30
Location: The Auditorium, Levels 3, 4, 5
Chairs: Philip Starr
San Francisco, CA, USA
Lars Timmermann
Cologne, Germany

10:30 Target choice in Parkinson’s disease: GPI or STN?
Ken Follett
Omaha, NE, USA

11:10 Deep Brain Stimulation for cognitive enhancement
Emad Eskandar
Boston, MA, USA

11:50 Closed-loop stimulation in Parkinson’s disease
Lars Timmermann
Cologne, Germany

At the conclusion of this session, participants should be better able to:
1. Describe relative indications for DBS of STN versus GPI in Parkinson’s disease
2. Understand basis for contingent (closed loop) stimulation in Parkinson’s disease
3. Assess potential basis for improving human cognition using DBS
Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

1107 Therapeutic Plenary Session III
Treatment of the psychiatric and cognitive disorders of Parkinson’s disease: Evidence or expertise?
14:00 – 16:00
Location: The Auditorium, Levels 3, 4, 5
Chairs: Daniel Weintraub
Ardmore, PA, USA
Laura Marsh
Houston, TX, USA

14:00 Treatment of dementia and mild cognitive impairment in Parkinson’s disease: Do drugs really work?
Jaime Kulisevsky
Barcelona, Spain

14:40 Treatment of affective disorders in Parkinson’s disease: How do I choose which drug to use?
Laura Marsh
Houston, TX, USA

15:20 Treatment of psychosis and behavioral disorders in Parkinson’s disease: Help or hindrance?
Daniel Weintraub
Ardmore, PA, USA

At the conclusion of this session, participants should be better able to:
1. Summarize recent clinical trials for psychiatric and cognitive disorders in Parkinson’s disease
2. Critically evaluate the relative benefits and risks of various treatment strategies for common neuropsychiatric symptoms in Parkinson’s disease
3. Assess benefit vs. tolerability of common psychiatric and cognitive treatments in Parkinson’s disease
Recommended Audience: Basic scientists, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

1108 Therapeutic Plenary Session IV
The practical application of evidence-based medicine in Parkinson’s disease
16:30 – 18:30
Location: The Auditorium, Levels 3, 4, 5
Chairs: Timothy Counihan
Galway, Ireland
Klaus Seppi
Innsbruck, Austria

16:30 Neuroprotection and early symptomatic treatment
Shen-Yang Lim
Kuala Lumpur, Malaysia

17:10 Later motor problems
Regina Katzschnegler
Vienna, Austria

17:50 Non-motor features: Beyond neuropsychiatric
Klaus Seppi
Innsbruck, Austria

At the conclusion of this session, participants should be better able to:
1. Understand the status of neuroprotective/disease modifying therapy in Parkinson’s disease
2. Recognize the pros and cons related to the available treatments for the motor symptoms of Parkinson’s disease
3. Apply treatments shown to be of benefit for the non-cognitive, non-neuropsychiatric non-motor features of Parkinson’s disease
Recommended Audience: Clinical academicians, Health Professionals (Non-Physician), Students/Residents/Trainees, Practitioners

Supported by an unrestricted educational grant from GlaxoSmithKline.

Welcome Ceremony
19:00 – 21:00
Location: The Auditorium, Levels 3, 4, 5
MONDAY, JUNE 18, 2012

2103 Plenary Session V
Is it time to change how we define Parkinson’s disease?
8:00 – 10:00
Location: The Auditorium, Levels 3, 4, 5
Chairs: Anthony Lang
Toronto, ON, Canada
Matthew Stern
Philadelphia, PA, USA

8:00 A clinical diagnosis based on bradykinesia, tremor and rigidity: Pathology and genetics are irrelevant
Bastiaan Bloem
Nijmegen, Netherlands

8:40 Parkinson’s disease is a synucleinopathy: The clinical syndrome and genetics are irrelevant
Glenda Halliday
Randwick, Australia

9:20 Parkinson’s disease is a genetic disorder and should be defined as such: The clinical syndrome and pathology are irrelevant
Matthew Farrer
Vancouver, BC, Canada

At the conclusion of this session, participants should be better able to:
1. Describe the different pathological changes associated with genetic Parkinson’s disease
2. Identify the clinical features associated with Lewy body pathology
3. Recognize the various genetic factors that are associated with Parkinson’s disease
Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

AOS General Assembly
10:00 – 10:45
Location: Wicklow Hall 1, Level 2
All delegates from Asia and Oceania are encouraged to attend.

2104 Plenary Session VI
Revising translational research approaches in neurodegeneration
10:45 – 12:45
Location: The Auditorium, Levels 3, 4, 5
Chairs: Virginia Lee
Philadelphia, PA, USA
John Trojanowski
Philadelphia, PA, USA

10:45 Re-engineering translational sciences: New approaches to the development of diagnostics and therapeutics in neurodegenerative diseases
John Trojanowski
Philadelphia, PA, USA

11:25 Pre-clinical efficacy testing: The future role of animal vs. newer efficacy models
Virginia Lee
Philadelphia, PA, USA

12:05 Newer clinical trial designs for future therapeutic studies
Bernard Ravina
Cambridge, MA, USA

At the conclusion of this session, participants should be better able to:
1. Understand the need to re-engineer the translational process and the options that modern technologies provide
2. Understand the challenges to standard animal models and the potential for new models of efficacy testing
3. Recognize the potential and need for new clinical trial designs including adaptive trial designs, new approaches to patient stratification, etc.
Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

Supported by an unrestricted educational grant from Elan Pharmaceuticals, Inc.

Guided Poster Tours
*Ticket required for all Guided Poster Tours – visit the MDS Booth (Exhibition Hall) for tickets and information.

GPT 1: Basic science
12:45 – 14:15
Location: Liffey Hall 1, Level 1
Leaders: Serge Przedborski
New York, NY USA
Ryuji Kaji
Tokushima City, Japan

Poster Session 2
12:45 – 14:15
Location: Linear Park Marquee
Abstract Numbers: 277 – 611
Poster Viewing: 9:00 – 18:00

Corporate Therapeutic Symposium
14:15 – 15:15
Please see pages 52–53 for more information.

2206 Parallel Session
Molecular methodology for dummies: New investigative tools to shake up our understanding of Parkinson’s disease
15:45 – 17:45
Location: Liffey B, Level 1
Chairs: Thomas Gasser
Tübingen, Germany
Dolores Cahill
Dublin, Ireland

15:45 What have genome wide association studies taught us that is new in Parkinson’s disease?
Thomas Gasser
Tübingen, Germany

16:25 Transcriptomics: Does it contribute to our understanding of Parkinson’s disease?
Ron Shamir
Tel Aviv, Israel
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2206 Parallel Session

17:05 Proteomic approach to Parkinson’s disease: What does this mean?  
Mauro Fasano  
Busto Arsizio, Italy  
At the conclusion of this session, participants should be better able to:  
1. Understand the value of GWAS in the genetic basis for Parkinson’s disease  
2. Identify the nature and use of “-omic” approaches as tools for studying Parkinson’s disease  
3. Understand what have these “-omic” approaches revealed that is new in Parkinson’s disease  
Recommended Audience: Basic scientists, Clinical academicians, Students/Residents/Trainees

2207 Parallel Session

Whatever happened to environmental factors in the etiology of Parkinson’s disease? Are they still important?  
15:45 – 17:45  
Location: Liffey Hall 1, Level 1  
Chairs: Francesca Cicchetti  
Quebec, PQ, Canada  
Riona Mulcahy  
Waterford, Ireland  
Alberto Ascherio  
Boston, MA, USA  
16:25 Environmental factors: What have we learned from animal models?  
Francesca Cicchetti  
Quebec, PQ, Canada  
17:05 Epigenetics of psychiatric and neurological diseases  
Art Petronis  
Toronto, ON, Canada  
At the conclusion of this session, participants should be better able to:  
1. Describe the role of environmental factors and toxins in causing Parkinsonism  
2. Understand how animal models inform our understanding of the pathophysiology of Parkinson’s disease  
3. Explain epigenetic mechanisms and their possible relevance to the pathogenesis of Parkinson’s disease  
Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Students/Residents/Trainees

2208 Parallel Session

Gait and postural control in movement disorders: New perspectives  
15:45 – 17:45  
Location: The Auditorium, Levels 3, 4, 5  
Chairs: Fay Horak  
Portland, OR, USA  
Lynn Rochester  
Newcastle upon Tyne, United Kingdom  
15:45 Imaging gait and postural control: Methods, mechanisms and pathology  
Ivan Toni  
Nijmegen, Netherlands  
16:25 Gait and postural control as biomarkers of Parkinson’s disease progression  
Fay Horak  
Portland, OR, USA  
17:05 Non-dopaminergic contribution to gait and postural dysfunction in Parkinson’s disease and its therapeutic implications  
Nicolaas Bohnen  
Saline, MI, USA  
At the conclusion of this session, participants should be better able to:  
1. Understand developments in neuroimaging and postural control, limitations and neural correlates  
2. Identify the role of gait and postural control in predicting outcome in movement disorders  
3. Understand the role of non-dopaminergic pathology in gait and postural control and alternative therapeutic approaches  
Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

2209 Parallel Session

What do I say when my patient asks me about cell and gene therapies for their Parkinson’s disease?  
15:45 – 17:45  
Location: Wicklow Hall 1, Level 2  
Chairs: Roger Barker  
Cambridge, United Kingdom  
Stanley Fahn  
New York, NY, USA  
15:45 How could stem cells be useful for Parkinson’s disease?  
Lorenz Studer  
New York, NY, USA  
At the conclusion of this session, participants should be better able to:  
1. Identify movement disorders associated with infectious and autoimmune diseases  
2. Describe infectious and autoimmune mechanisms causing movement disorders in infectious diseases  
3. Discuss the prevention and treatment of movement disorders associated with infections or autoimmunity  
Recommended Audience: Basic Scientists, Clinical academicians, Practitioners

2210 Parallel Session

Infectious diseases, autoimmunity and movement disorders  
15:45 – 17:45  
Location: Liffey A, Level 1  
Chairs: Russell Dale  
Sydney, Australia  
Sean O’Riordan  
Dublin, Ireland  
15:45 The spectrum of Streptococcal-related movement disorders  
Davide Martino  
Bari, Italy  
16:25 Post-encephalitic movement disorders  
Usha Misra  
Lucknow, India  
17:05 Autoimmune mediated movement disorders  
Russell Dale  
Sydney, Australia  
At the conclusion of this session, participants should be better able to:  
1. Understand how stem cells can be used for modeling and treating Parkinson’s disease  
2. Summarize the current data on gene therapies for Parkinson’s disease  
3. Understand the debate about how cell and gene therapies compare to DBS  
Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees
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2308 Teaching Course [TICKET]
Update on psychogenic movement disorders
15:45 – 17:45
Location: Liffey Hall 2, Level 1
Chairs: Mark Hallett
Bethesda, MD, USA
Jon Stone
Edinburgh, United Kingdom

16:25 Approach to the patient: How to discuss the diagnosis with patients with PMD
16:25 Mark Edwards
London, United Kingdom

17:05 Management of PMD: Is this a treatable disorder?
17:05 Karen Anderson
Baltimore, MD, USA

At the conclusion of this session, participants should be better able to:
1. Recognize PMDs in patients
2. Discuss diagnosis of PMDs with the patient
3. Manage PMDs in patients
Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

2309 Teaching Course [TICKET, cont.]
Update on diagnosis and management of early Parkinsonism
15:45 – 17:45
Location: Wicklow Hall 2, Level 2
Chairs: Shu-Leong Ho
Hong Kong
Timothy Lynch
Dublin, Ireland

15:45 Clinical characteristics of early Parkinsonism and its differential diagnosis
15:45 Timothy Lynch
Dublin, Ireland

16:25 Neuroimaging techniques and other diagnostic procedures in the differential diagnosis of Parkinson’s disease
16:25 Christoph Scherfler
Innsbruck, Austria

17:05 Treatment of the early Parkinson’s disease patients
17:05 Shu-Leong Ho
Hong Kong

At the conclusion of this session, participants should be better able to:
1. Recognize potential behavioral problems associated with therapy
2. Discuss strategies to management of behavioral problems
3. Identify how and when to discuss behavioral problems with patient and family
Recommended Audience: Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

2403 Skills Workshop [TICKET]
Is my movement disorder genetic and what does that mean for me and my family?
18:15 – 19:45
Location: Liffey Hall 2, Level 1

In this interactive session, the faculty will review construction of pedigrees, modes of inheritance and will discuss examples of familial movement disorders and the impact of a molecular diagnosis on the patient and his/her family.

Rachel Saunders-Pullman
New York, NY, USA
Katja Lohmann
Lübeck, Germany

At the conclusion of this session, participants should be better able to:
1. Describe how to take a detailed family history and draw an appropriate pedigree
2. Interpret pedigrees with respect to different possible modes of inheritance
3. Appreciate the important ethical issues and principles involved in genetic counseling
Recommended Audience: Clinical academicians, Practitioners, Students/Residents/Trainees

2404 Skills Workshop [TICKET, cont.]
Lessons I learned from my patients
18:15 – 19:45
Location: Liffey Hall 1, Level 1

In this interactive session, the faculty will present clinical cases from their own practice and discuss the lessons learned when critical reappraisal of clinical features has led to a revision of diagnosis and change in management.

Philip Thompson
Adelaide, Australia
Eduardo Tolosa
Barcelona, Spain

At the conclusion of this session, participants should be better able to:
1. Recognize the lessons for clinical practice from critically reviewing cases where diagnostic or management revisions were made

2405 Skills Workshop [TICKET]
The role of the nurse in the management of behavioral problems in movement disorders
18:15 – 19:45
Location: Wicklow Hall 1, Level 2

In this interactive session, the faculty will review the role of the movement disorders nurse in identifying complex behavioral problems, discuss the limitations of current therapy and the implications and alternatives for therapeutic management of symptoms.

Stephen Smith
Norfolk, United Kingdom
Brian Magennis
Dublin, Ireland

At the conclusion of this session, participants should be better able to:
1. Recognize potential behavioral problems associated with therapy
2. Discuss strategies to management of behavioral problems
3. Identify how and when to discuss behavioral problems with patient and family
Recommended Audience: Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

2406 Skills Workshop [TICKET]
Getting the best out of botulinum toxin treatment
18:15 – 19:45
Location: Wicklow Hall 2, Level 2

In this interactive session, the faculty will review the best approach to evaluate patients requiring botulinum toxin injections, how to deploy clinical strategies to manage such patients, and the best techniques to administer botulinum toxin.

A. Peter Moore
Liverpool, United Kingdom
Erle Chuen-Hian Lim
Singapore

At the conclusion of this session, participants should be better able to:
1. Develop an approach to evaluate patients for botulinum toxin treatment
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2406 Skills Workshop
2. Deploy effective clinical strategies for dealing with both challenging and apparently straightforward cases.
3. Understand the basis for guidance techniques in botulinum toxin injections compared to surface marking.
Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees
Supported by an unrestricted educational grant from Ipsen.

2407 Skills Workshop
How to distinguish Parkinson’s disease subtypes
18:15 – 19:45
Location: The Auditorium, Levels 3, 4, 5
In this interactive session, the audience will be instructed on using clinical and investigational tools to identify different subtypes of Parkinson’s disease. The latest research and thinking in this area will be highlighted.
Bob Van Hilten
Leiden, Netherlands
Ryan Uitti
Jacksonville, FL, USA

At the conclusion of this session, participants should be better able to:
1. Describe different subtypes of Parkinson’s disease
2. Discuss the clinical and prognostic significance of such subtyping
3. Identify future research trends in this area using the latest tools available
Recommended Audience: Basic scientists, Clinical academicians, Practitioners

2408 Skills Workshop
Movement disorders emergencies
18:15 – 19:45
Location: Liffey A, Level 1
In this interactive session, problematic movement disorder emergencies will be discussed. This session will include unusual presentations of known conditions that may be treatable and present with disorders of movement.
Marco Onofrj
Pescara, Italy
Helio Teive
Curitiba, Brazil

At the conclusion of this session, participants should be better able to:
1. Develop an understanding of motor emergencies that occur in parkinsonism, including severe rigidity and hyperpyrexia

TUESDAY, JUNE 19, 2012

3103 Plenary Session VII
Lost in translation: Has genetics informed our knowledge of non-parkinsonian movement disorders?
8:00 – 10:00
Location: The Auditorium, Levels 3, 4, 5
Chairs: Michael Hutchinson
Dublin, Ireland
Christine Klein
Lübeck, Germany

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3104 Plenary Session VIII
Recent and ongoing clinical trials in movement disorders
10:45 – 12:15
Location: The Auditorium, Levels 3, 4, 5
Chairs: Joseph Jankovic
Houston, TX, USA
Werner Poewe
Innsbruck, Austria

10:45 Clinical trials in Parkinson’s disease
Werner Poewe
Innsbruck, Austria

11:15 Clinical trials in other movement disorders
Joaquim Ferreira
Lisbon, Portugal

11:45 Clinical trials in DBS surgery
Günter Deuschi
Kiel, Germany

MDS Business Meeting
10:00 – 10:45
Location: Wicklow Hall 2, Level 2
Open to all delegates

9:20 Has identification of the Huntington’s disease gene mutation been the most over-hyped scientific news in the last twenty years?
M. Flint Beal
New York, NY, USA

At the conclusion of this session, participants should be better able to:
1. Describe how gene status affect the management of dystonia
2. Express the genotype-phenotype relationship (if any) of spinocerebellar ataxias
3. Understand the relevance of finding the gene for Huntington’s disease to neurological practice
Recommended Audience: Clinical academicians, Practitioners
Supported by an unrestricted educational grant from Ipsen.
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3104 Plenary Session VIII, cont.
At the conclusion of this session, participants should be better able to:
1. Critically assess the most important recent clinical trials in Parkinson’s disease and other movement disorders
2. Integrate clinical trials results into clinical practice
3. List unmet therapeutic needs which require further studies
Recommended Audience: Basic scientists, Health Professionals (Non-Physician), Students/Residents/Trainees

Guided Poster Tours
*Ticket required for all Guided Poster Tours – visit the MDS Booth (Exhibition Hall) for tickets and information

GPT 5: Parkinson’s disease: Clinical trials
12:15 – 13:45
Location: Liffey Hall 1, Level 1
Leaders: Eduardo Tolosa
Barcelona, Spain
Anthony Schapira
London, United Kingdom

GPT 6: Surgical therapy: Parkinson’s disease
12:15 – 13:45
Location: Liffey Hall 2, Level 1
Leaders: Philip Starr
San Francisco, CA, USA
Pierre Pollack
Geneva, Switzerland

GPT 7: Rating scales and assessment tools
12:15 – 13:45
Location: Wicklow Hall 1, Level 1
Leaders: A. Peter Moore
Liverpool, United Kingdom
Tove Henriksen
Copenhagen, Denmark

GPT 8: Parkinson’s disease: Neuropharmacology
12:15 – 13:45
Location: Wicklow Hall 2, Level 2
Leaders: Joaquim Ferreira
Lisbon, Portugal
Thomas Fohtynie
London, United Kingdom

Poster Session 3
12:15 – 13:45
Abstract Numbers: 612 – 945
Location: Linear Park Marquee
Poster Viewing: 9:00 – 18:00

Corporate Therapeutic Symposia

13:45 – 14:45
Please see pages 52–53 for more information.

3207 Parallel Session
Is Parkinson’s disease a mitochondrial or proteostatic disorder?
15:15 – 17:15
Location: Liffey A, Level 1
Chairs: Gavin Davey
Dublin, Ireland
D. James Surmeier
Chicago, IL, USA

15:15 Oxidative stress and mitochondrial dysfunction in Parkinson’s disease
D. James Surmeier
Chicago, IL, USA

15:55 Proteostatic dysfunction in Parkinson’s disease
David Sulzer
New York, NY, USA

16:35 Crosstalk between mitochondria and the proteasome
J. Timothy Greenamyre
Pittsburgh, PA, USA

At the conclusion of this session, participants should be better able to:
1. Describe the origins of mitochondrial oxidant stress in Parkinson’s disease and how it might be mitigated
2. Describe the role of proteostatic dysfunction in neuronal vulnerability in Parkinson’s disease
3. Describe how a combination of mitochondrial and proteostatic deficits might accelerate neuronal pathogenesis in Parkinson’s disease
Recommended Audience: Basic scientists, Students/Residents/Trainees

3208 Parallel Session
Imaging genetics in movement disorders
15:15 – 17:15
Location: Liffey Hall 1, Level 1
Chairs: Jose Obeso
Pamplona, Spain
Antonio Strafella
Toronto, ON, Canada

15:15 Imaging genomics: Mapping preclinical changes in Parkinson’s disease
A. Jon Stoessl
Vancouver, BC, Canada

3209 Parallel Session
Update on DBS in hyperkinetic movement disorders
15:15 – 17:15
Location: Wicklow Hall 2, Level 2
Chairs: Paul Krack
Grenoble, France
Jens Volkmann
Würzburg, Germany

15:55 DBS in dystonia
Jens Volkmann
Würzburg, Germany

15:55 DBS in tremor
Valerie Fraix
Saint Martin D’Heres, France

16:35 DBS in Gilles de la Tourette syndrome
Veerle Visser-Vandewalle
Maastricht, Netherlands

At the conclusion of this session, participants should be better able to:
1. Understand potential benefits and limitations of DBS in dystonia
2. Understand potential benefits and limitations of DBS in tremors
3. Understand potential benefits and limitations of DBS in Gilles de la Tourette syndrome
Recommended Audience: Clinical academicians, Practitioners
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3210 Parallel Session

What is new in PSP?
15:15 – 17:15
Location: Liffey B, Level 1
Chairs: Irene Litvan
La Jolla, CA, USA
Günter Höglinger
Munich, Germany

15:15 Etiopathogenesis of PSP: Genetics
Günter Höglinger
Munich, Germany

15:55 Etiopathogenesis of PSP: Occupation and Environment
Irene Litvan
La Jolla, CA, USA

16:35 Treatment of PSP and other tauopathies
Adam Boxer
San Francisco, CA, USA

At the conclusion of this session, participants should be better able to:
1. Recall the most recent advances in the potential role of genetics in the risk for PSP
2. Understand the most recent advances in the potential role of environmental and occupational factors in the etiopathogenesis of PSP
3. Explain the most recent advances in the treatment of PSP and other tauopathies

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

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3309 Teaching Course

Frontotemporal dementias and parkinsonism
15:15 – 17:15
Location: Wicklow Hall 1, Level 2
Chairs: Hugh Harrington
Cork, Ireland
Ian Mackenzie
Vancouver, BC, Canada

15:15 New advances in FTD genetics
Bryan Traynor
Bethesda, MD, USA

15:55 The molecular basis of FTD
Ian Mackenzie
Vancouver, BC, Canada

16:35 Clinical overlap of FTD and parkinsonism
Zbigniew Wszolek
Jacksonville, FL, USA

At the conclusion of this session, participants should be better able to:
1. Describe the relation of mutation in the C9ORF72 gene on chromosome 9 with the FTD, ALS and parkinsonian phenotypic presentations
2. Describe the heterogeneous molecular basis of FTD

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3310 Teaching Course

Update on levodopa-induced dyskinesias
15:15 – 17:15
Location: Liffey Hall 2, Level 1
Chairs: Giovanni Fabbri
Rome, Italy
Susan Fox
Toronto, ON, Canada

15:15 Pathophysiology of levodopa-induced dyskinesias
Susan Fox
Toronto, ON, Canada

15:55 Phenomenology, classification and assessment of levodopa-induced dyskinesias
Giovanni Fabbri
Rome, Italy

16:35 Preventative and management strategies for levodopa-induced dyskinesias
Federico Micheli
Buenos Aires, Argentina

At the conclusion of this session, participants should be better able to:
1. Understand the current concepts of the pathophysiology of levodopa-induced dyskinesias
2. Be able to evaluate and assess patients with levodopa-induced dyskinesias
3. Understand how to prevent and manage levodopa-induced dyskinesias

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

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3403 Skills Workshop

Movement Disorders Grand Rounds
15:15 – 17:15
Location: The Auditorium, Levels 3, 4, 5

In this interactive session, four to five volunteer patients with a known complex movement disorder will be in attendance. The patients, their history and clinical findings (including videotape of the movement disorder) will be presented by the Registrar/Resident/Fellow to one of the four movement disorder “experts.” The expert will review the history with the patient and highlight and demonstrate the neurological signs to the audience, who can ask questions of the patient and the

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3404 Skills Workshop

How to critically read and interpret genetic and molecular biological literature in movement disorders (e.g. GWAS studies)
17:45 – 19:15
Location: Wicklow Hall 2, Level 2

In this interactive session, faculty will review the conceptual framework and limitations of studies aimed at determining the role of genetic variation in the risk of developing movement disorders.

Vincenzo Bonifati
Rotterdam, Netherlands

Jeffery Vance
Miami, FL, USA
TUESDAY, JUNE 19, 2012

3404 Skills Workshop  [Ticket] cont.
At the conclusion of this session, participants should be better able to:
1. Understand the strengths and limitations of genetic models of movement disorders
2. Understand how GWAS studies should be designed
3. Know the common shortcomings of GWAS studies of movement disorders
Recommended Audience: Basic scientists, Clinical academicians, Students/Residents/Trainees

3405 Skills Workshop  [Ticket] cont.
Lessons learned from the MDS-UPDRS
17:45 – 19:15
Location: Liffey Hall 1, Level 1
In this interactive session, new data related to the characteristics and performance of the MDS-UPDRS concerning transformation to and from UPDRS scores, comparison between samples from different countries, and outcomes research based on the MDS-UPDRS will be shown.

Marcelo Merello
Buenos Aires, Argentina
Pablo Martinez-Martin
Madrid, Spain

At the conclusion of this session, participants should be able to:
1. Better understand the structure, properties, and appropriateness of the MDS-UPDRS
2. Understand the relationship between scores from the UPDRS and MDS-UPDRS
3. Explain the experience in the application of the MDS-UPDRS by experts involved and not involved in its development
Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

3406 Skills Workshop  [Ticket] cont.
At the conclusion of this session, participants should be better able to:
1. Understand the problems encountered in very advanced Parkinson’s disease patients
2. Discuss management of motor and non-motor symptoms in these patients
3. Understand the role of palliative care in the context of Parkinson’s disease
Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

3407 Skills Workshop
Multidisciplinary care for Parkinson’s disease: Why, who, and when?
17:45 – 19:15
Location: Liffey A, Level 1
In this interactive session, the faculty will engage in a debate with the audience to review the pros and cons of a multidisciplinary team approach for Parkinson’s disease patients.

Nir Giladi
Tel Aviv, Israel
Marten Munneke
Nijmegen, Netherlands

At the conclusion of this session, participants should be better able to:
1. Understand why Parkinson’s disease patients require a multidisciplinary team approach
2. Summarize which professionals could be part of this team, and explain the various types of multidisciplinary care
3. Discuss the evidence base and cost-effectiveness of multidisciplinary care in Parkinson’s disease
Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees
Supported by an unrestricted educational grant from Abbott.

3408 Video Session  [Ticket], cont.
Susan Bressman
New York, NY, USA

At the conclusion of this session, participants should be better able to:
1. Understand the classification and genotype/phenotype of the primary dystonias and their classical presentations
2. Describe the spectrum of movement disorders associated with dystonia-plus syndromes
3. Discuss the most relevant differential diagnoses and initiate adequate genetic testing
Recommended Audience: Clinical academicians, Practitioners, Students/Residents/Trainees
Supported by an unrestricted educational grant from Ipsen.

3509 Video Session  [Ticket]
The eyes as a window into the diagnosis of movement disorders
17:45 – 19:15
Location: Liffey Hall 2, Level 1
In this interactive session, participants will learn how to examine eye movements and observe the eye movement abnormalities that are characteristic of ataxic and extrapyramidal syndromes.

Janet Rucker
New York, NY, USA
R. John Leigh
Cleveland, OH, USA

At the conclusion of this session, participants should be better able to:
1. Describe different forms of ocular motility disorder
2. Identify eye movement abnormalities in inherited ataxias
3. Identify eye movement abnormalities in extrapyramidal disorders
Recommended Audience: Clinical academicians, Practitioners, Students/Residents/Trainees

3510 Video Session  [Ticket]
Unusual movement disorders: A potpourri
17:45 – 19:15
Location: Liffey B, Level 1
In this interactive session, the faculty will show a variety of rare and unusual hypokinetic and hyperkinetic movement disorders. An organized approach to the differential diagnosis will be discussed. Audience participation is encouraged and they may bring unusual cases for presentation.

Alberto Espay
Cincinnati, OH, USA
Kailash Bhatia
London, United Kingdom

Clinical clues and pearls in the recognition of the primary dystonias and dystonia-plus syndromes: Genotype-Phenotype correlation
17:45 – 19:15
Location: The Auditorium, Levels 3, 4, 5
In this interactive session, classical examples of primary dystonias and dystonia plus syndromes will be presented and discussed. Features helping in the differential diagnosis and in initiating adequate genetic testing will be elaborated by the audience.

Marie Vidailhet
Paris, France

Modern concepts of palliative care and end of life issues in parkinsonism
17:45 – 19:15
Location: Wicklow Hall 1, Level 2
In this interactive session, problematic end-stage Parkinson’s disease cases submitted by the audience and by the faculty will be discussed and algorithms to improve quality of care and quality of life will be reviewed.

Peter Fletcher
Cheltenham, United Kingdom
Janis Miyasaki
Toronto, ON, Canada

3409 Skills Workshop  [Ticket] cont.
In this interactive session, new data related to the characteristics and performance of the MDS-UPDRS concerning transformation to and from UPDRS scores, comparison between samples from different countries, and outcomes research based on the MDS-UPDRS will be shown.

3410 Skills Workshop  [Ticket] cont.
Multidisciplinary care for Parkinson’s disease: Why, who, and when?
17:45 – 19:15
Location: Liffey A, Level 1
In this interactive session, the faculty will engage in a debate with the audience to review the pros and cons of a multidisciplinary team approach for Parkinson’s disease patients.

3411 Skills Workshop  [Ticket] cont.
At the conclusion of this session, participants should be better able to:
1. Understand why Parkinson’s disease patients require a multidisciplinary team approach
2. Summarize which professionals could be part of this team, and explain the various types of multidisciplinary care
3. Discuss the evidence base and cost-effectiveness of multidisciplinary care in Parkinson’s disease
Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees
Supported by an unrestricted educational grant from Abbott.

3412 Skills Workshop  [Ticket] cont.
The eyes as a window into the diagnosis of movement disorders
17:45 – 19:15
Location: Liffey Hall 2, Level 1
In this interactive session, participants will learn how to examine eye movements and observe the eye movement abnormalities that are characteristic of ataxic and extrapyramidal syndromes.

3413 Skills Workshop  [Ticket] cont.
At the conclusion of this session, participants should be better able to:
1. Describe different forms of ocular motility disorder
2. Identify eye movement abnormalities in inherited ataxias
3. Identify eye movement abnormalities in extrapyramidal disorders
Recommended Audience: Clinical academicians, Practitioners, Students/Residents/Trainees
Supported by an unrestricted educational grant from Ipsen.

3414 Skills Workshop  [Ticket] cont.
The eyes as a window into the diagnosis of movement disorders
17:45 – 19:15
Location: Liffey Hall 2, Level 1
In this interactive session, participants will learn how to examine eye movements and observe the eye movement abnormalities that are characteristic of ataxic and extrapyramidal syndromes.

3415 Skills Workshop  [Ticket] cont.
At the conclusion of this session, participants should be better able to:
1. Describe different forms of ocular motility disorder
2. Identify eye movement abnormalities in inherited ataxias
3. Identify eye movement abnormalities in extrapyramidal disorders
Recommended Audience: Clinical academicians, Practitioners, Students/Residents/Trainees
Supported by an unrestricted educational grant from Ipsen.

3416 Skills Workshop  [Ticket] cont.
The eyes as a window into the diagnosis of movement disorders
17:45 – 19:15
Location: Liffey Hall 2, Level 1
In this interactive session, participants will learn how to examine eye movements and observe the eye movement abnormalities that are characteristic of ataxic and extrapyramidal syndromes.

3417 Skills Workshop  [Ticket] cont.
At the conclusion of this session, participants should be better able to:
1. Describe different forms of ocular motility disorder
2. Identify eye movement abnormalities in inherited ataxias
3. Identify eye movement abnormalities in extrapyramidal disorders
Recommended Audience: Clinical academicians, Practitioners, Students/Residents/Trainees
Supported by an unrestricted educational grant from Ipsen.
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3510 Video Session [TICKET], cont.

At the conclusion of this session, participants should be better able to:
1. Identify rare hypokinetic movement disorders and differentiate these from the common varieties.
2. Discuss unusual hyperkinetic movement disorders.
3. Describe an approach to the differential diagnosis of unusual movement disorders.

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

WEDNESDAY, JUNE 20, 2012

4103 Plenary Session IX

Presidential Lectures
8:00 – 10:00
Location: The Auditorium, Levels 3, 4, 5

Chairs: Günther Deuschl
Kiel, Germany
Matthew Stern
Philadelphia, PA, USA

8:00 – 10:00
Stanley Fahn Lecture: The Edgelands of the Shaking Palsy
Andrew Lees
London, United Kingdom

8:30 Junior Award Lectures
Marios Politis
London, United Kingdom
Norbert Brüggemann
Lübeck, Germany
Karin Tuschl
London, United Kingdom

9:30 – 10:00
C. David Marsden Lecture: Using genetic analysis to get at the biology of Parkinson’s disease
John Hardy
London, United Kingdom

At the conclusion of this session, participants should be better able to:
1. Emphasize the ongoing importance of scrupulous history taking, meticulous observations and adductive reasoning in the specialty of movement disorders.
2. Investigate the role of serotonergic (5-HT) terminals in peak-dose L-DOPA-induced dyskinetic syndromes (LIDs) in Parkinson’s disease (PD).
4. Understand the role of manganese metabolism in movement disorders.
5. Understand the genetics of Parkinson’s disease and the extent to which we can map the genes which we have found onto biochemical pathways.

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

4104 Plenary Session X

At-risk cohorts for Parkinson’s disease: Where do we stand?
10:30 – 12:00
Location: The Auditorium, Levels 3, 4, 5

Chairs: Daniel Healy
Dublin, Ireland
Matthew Stern
Philadelphia, PA, USA

10:30 – 12:00
Markers for pre-manifest Parkinson’s disease
Matthew Stern
Philadelphia, PA, USA

11:00 – 12:00
What are we learning from our pre-manifest Parkinson’s disease cohorts?
Daniela Berg
Tübingen, Germany

11:30 – 12:30
Are we ready to conduct clinical trials in pre-manifest Parkinson’s disease?
Oliver Rascol
Toulouse, France

At the conclusion of this session, participants should be better able to:
1. Understand the challenges of diagnosing pre-manifest Parkinson’s disease and characterize markers according to their predictive value.
2. Consider essentials for designing a pre-Parkinson’s disease study.
3. Discuss prerequisites to conduct clinical trials in pre-manifest Parkinson’s disease.

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

Guided Poster Tours

*Ticket required for all Guided Poster Tours – visit the MDS Booth (Exhibition Hall) for tickets and information.

GPT 9: Genetics
12:00 – 13:30
Location: Liffey Hall 1, Level 1

Leaders: Thomas Gasser
Tübingen, Germany
Matthew Farrer
Vancouver, BC, Canada

GPT 10: Parkinson’s disease:
Phenomenology
12:00 – 13:30
Location: Liffey Hall 2, Level 1

Leaders: Stanley Fahn
New York, NY, USA
Joseph Jankovic
Houston, TX, USA

Guided Poster Tours, cont.

GPT 11: Huntington’s disease
12:00 – 13:30
Location: Wicklow Hall 1, Level 2

Leaders: M. Flint Beal
New York, NY, USA
John Hardy
London, United Kingdom

GPT 12: Parkinson’s disease: Behavioral disorders
12:00 – 13:30
Location: Wicklow Hall 2, Level 2

Leaders: Daniel Weintraub
Ardmore, PA, USA
K. Ray Chaudhuri
London, United Kingdom

Poster Session 4
12:00 – 13:30
Location: The Forum

Poster Viewing: 9:00 – 18:00

Late-Breaking Abstracts Poster Session
12:00 – 13:30

Corporate Therapeutic Symposia
13:30 – 14:30

Please see pages 52–53 for more information.

4208 Parallel Session [TICKET]

What is essential tremor?
15:00 – 17:00
Location: Liffey A, Level 1

Chairs: Günther Deuschl
Kiel, Germany
Rodger Elble
Springfield, IL, USA

15:00 – 17:00
A clinical perspective
Rodger Elble
Springfield, IL, USA

15:40 – 17:00
A neurophysiological perspective
Alfons Schnitzler
Düsseldorf, Germany

16:20 – 18:00
A biological perspective
Alexander Rajput
Saskatoon, SK, Canada

At the conclusion of this session, participants should be better able to:
1. Identify the controversies related to what constitutes essential tremor and its association with other movement disorders.

Leaders: Günther Deuschl
Kiel, Germany
Matthew Stern
Philadelphia, PA, USA

15:00 – 17:00
Leaders: M. Flint Beal
New York, NY, USA
John Hardy
London, United Kingdom

15:40 – 17:00
Leaders: Daniel Weintraub
Ardmore, PA, USA
K. Ray Chaudhuri
London, United Kingdom

Poster Session 4
12:00 – 13:30
Location: The Forum

Poster Viewing: 9:00 – 18:00
**Wednesday, June 20, 2012**

**4208 Parallel Session**
- Recognize the genetic heterogeneity of essential tremor and the challenges to defining its genetic basis
- Discuss the various pathological findings that have been associated with essential tremor and the controversies related to these

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

**4209 Parallel Session**
- Paraneoplastic and other autoimmune movement disorders
  - 15:00 – 17:00
  - Location: The Auditorium, Levels 3, 4, 5
  - Chairs: Victor Fung, Westmead, Australia
            Angela Vincent, Headington, United Kingdom

**4210 Parallel Session**
- Pathogenesis of paraneoplastic syndromes
  - 15:00
  - Chairs: Dag Aarsland, Stavanger, Norway
            Roger Barker, Cambridge, United Kingdom

**4211 Parallel Session**
- Diagnosis and management of paraneoplastic syndromes which present with a hyperkinetic movement disorder
  - Thomas Kimber, Adelaide, Australia

**4212 Parallel Session**
- 15:00
  - Does the sensory system play a role in movement disorders?
  - Chairs: Michael Hutchinson, Dublin, Ireland
            John Rothwell, London, United Kingdom

**4307 Teaching Course**
- Update on chorea
  - 15:00 – 17:00
  - Chairs: Oscar Gershanik, Buenos Aires, Argentina
            Richard Walsh, Dublin, Ireland

**General Session**
- What is new in mild cognitive impairment in Parkinson’s disease?
  - 15:00 – 17:00
  - Chairs: Dag Aarsland, Stavanger, Norway
            Roger Barker, Cambridge, United Kingdom
WEDNESDAY, JUNE 20, 2012

4307 Teaching Course
Update on atypical parkinsonism
15:00 – 17:00
Location: Wicklow Hall 2, Level 2

Chairs: Fiona Molloy
Dublin, Ireland
Louis Tan
Singapore

15:00 Nosology of atypical parkinsonism
Roongroj Bhidayasiri
Bangkok, Thailand

15:40 Clinicopathological correlation
Helen Ling
London, United Kingdom

16:20 Current treatment strategies for MSA, PSP and CBS
Maria Stamelou
Corinth, Greece

At the conclusion of this session, participants should be better able to:
1. Recognize the key clinical features of MSA, PSP and CBS
2. Review investigations that may help distinguish atypical parkinsonism
3. Discuss management strategies for atypical parkinsonism

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

4403 Skills Workshop
DBS technical and troubleshooting issues
17:30 – 19:00
Location: Liffey B, Level 1

In this interactive session, problematic DBS cases will be discussed by the audience and by the faculty consisting of a neurologist and a neurosurgeon and algorithms to improve outcome will be reviewed.

Karl Sillay
Madison, WI, USA
Michael Okun
Gainesville, FL, USA

At the conclusion of this session, participants should be better able to:
1. Understand stimulation induced side effects and how they can influence decision on programming

4404 Skills Workshop
How to interpret the mysteries of RNA and mitochondrial-mediated pathophysiology in movement disorders
17:30 – 19:00
Location: Liffey Hall 1, Level 1

In this interactive session, discussion will be held on some of the emerging new ideas on the cellular pathology of movement disorders, especially in terms of mitochondrial and RNA processes and processing.

Peter Todd
Ann Arbor, MI, USA
Carolyn Sue
Sydney, Australia

At the conclusion of this session, participants should be better able to:
1. Describe the mechanisms and techniques used to elucidate the role of RNA in neurodegeneration
2. Understand the range of movement disorders associated with mitochondrial disease
3. Explain the techniques involved to determine mitochondrial dysfunction

Recommended Audience: Basic scientists, Clinical academicians, Practitioners

4405 Skills Workshop
Pediatric movement disorders
17:30 – 19:00
Location: Liffey Hall 2, Level 1

In this interactive session, the faculty will review clinical pearls of genetic forms of hereditary parkinsonism and present and discuss video examples of the various known forms of parkinsonism

Mary King
Dublin, Ireland

Teresa Temudo
Porto, Portugal

At the conclusion of this session, participants should be better able to:
1. Recognize the phenomenology of movement disorders in infants and children
2. Identify an approach to the diagnosis of infantile onset movement disorders

4406 Skills Workshop
Understanding and managing driving impairment in Parkinson’s disease
17:30 – 19:00
Location: Wicklow Hall 1, Level 2

In this interactive session, typical impairments in driving performance seen in Parkinson’s disease patients will be explored and the underlying mechanisms and rational management of this important disability will be discussed.

Ergun Yasar Uc
Iowa City, IA, USA
Sherrillene Classen
Gainesville, FL, USA

Clinical clues and pearls in the recognition of genetic forms of parkinsonism
17:30 – 19:00
Location: Liffey A, Level 1

In this interactive session, participants will learn how to recognize the phenomenology of movement disorders in infants and children due to inborn errors of metabolism or infectious and autoimmune causes of encephalitis.

Mary King
Dublin, Ireland

Teresa Temudo
Porto, Portugal

At the conclusion of this session, participants should be better able to:
1. Discuss the common impairments in driving performance seen in Parkinson’s disease patients
2. Understand the underlying mechanisms leading to driving difficulty in Parkinson’s disease, including the contributions of impaired executive function and visual perception
3. Become familiar with the appropriate clinical evaluation and subsequent management of driving dysfunction in Parkinson’s disease

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

4507 Video Session
Clinical clues and pearls in the recognition of genetic forms of parkinsonism
17:30 – 19:00
Location: Wicklow Hall 2, Level 2

In this interactive session, typical impairments in driving performance seen in Parkinson’s disease will be explored and the underlying mechanisms and rational management of this important disability will be discussed.

Ergun Yasar Uc
Iowa City, IA, USA
Sherrillene Classen
Gainesville, FL, USA

At the conclusion of this session, participants should be better able to:
1. Recognize the phenomenology of movement disorders in infants and children
2. Identify an approach to the diagnosis of infantile onset movement disorders
WEDNESDAY, JUNE 20, 2012

**4508 Video Session**
Episodic twitches and jumps: Paroxysmal dyskinesias and the startle conditions

17:30 – 19:00
Location: Wicklow Hall 2, Level 2
In this interactive session, the faculty will demonstrate different forms of paroxysmal dyskinesias and startle disorders pointing out the salient features to help recognize the different types. They will provide an update with regard to the genetic forms and secondary types and also provide guidelines to investigations using appropriate examples. Lastly, treatment strategies will be discussed again showing appropriate video examples.

Susanne Schneider
Lübeck, Germany

Marina de Koning-Tijssen
Amsterdam, Netherlands

At the conclusion of this session, participants should be better able to:
1. Recognize and identify different forms of paroxysmal movement disorders and startle related conditions
2. Be updated regarding genetic advances in the primary conditions and form an approach to investigations in patients with a suspected secondary cause
3. Identify effective treatments and management strategies in different forms of paroxysmal dyskinesias and startle syndromes and related disorders

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

**4509 Video Session**
Unusual presentations of common movement disorders

17:30 – 19:00
Location: The Auditorium, Levels 3, 4, 5
In this interactive session, the faculty will present videos of unusual presentations of common hyperkinetic and hypokinetic movement disorders and discuss the clues to recognize these conditions with audience participation. They will highlight appropriate investigations and treatment strategies.

Steven Frucht
New York, NY, USA
Matthew Brodsky
Portland, OR, USA

At the conclusion of this session, participants should be better able to:
1. Identify and recognize unusual presentations of some common hyperkinetic and hypokinetic movement disorders
2. Form a plausible list of differential diagnosis in a given patient with a unusual movement disorder
3. Plan an investigation and management strategy

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

**5102 Controversies**

Controversies in Movement Disorders
10:00 – 11:00
Location: The Auditorium, Levels 3, 4, 5

Chairs: Andrew Lees
London, United Kingdom
Antonio Strafella
Toronto, ON, Canada

10:00 (YES) Animal models predict neuroprotection in Parkinson’s disease
Serge Przedborski
New York, NY, USA

10:15 (NO) Animal models predict neuroprotection in Parkinson’s disease
Anthony Lang
Toronto, ON, Canada

10:30 (YES) Essential tremor is predictive of Parkinson’s disease
Elan Louis
New York, NY, USA

10:45 (NO) Essential tremor is predictive of Parkinson’s disease
Charles Adler
Scottsdale, AZ, USA

THURSDAY, JUNE 21, 2012

**5101 Plenary Session XI**
What have we learned about alpha-synuclein biology recently?
8:00 – 9:30
Location: The Auditorium, Levels 3, 4, 5

Chairs: Robert Edwards
San Francisco, CA, USA
Maria Grazia Spillantini
Cambridge, United Kingdom

At the conclusion of this session, participants should be better able to:
1. Understand the normal role of alpha-synuclein in neurons and if this role is linked to pathogenesis
2. Describe how over-expression or mutation of alpha-synuclein leads to aggregation and, potentially, spread of the pathology within the brain
3. Define how the understanding of alpha-synuclein biology informs the development of therapeutics

Recommended Audience: Basic scientists, Clinical academicians, Students/Residents/Trainees
At the conclusion of this session, participants should be better able to:
1. Describe the limits, disadvantages and advantages of animal models
2. Evaluate whether animal models may have a role in neuroprotection
3. Evaluate the role of essential tremor in Parkinson’s disease

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

At the conclusion of this session, participants should be better able to:
1. Understand the key new scientific findings from the poster presentations at the 2012 MDS International Congress
2. List the target areas of research focus for 2012-2013
3. Identify future primary areas of research in movement disorders

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

At the conclusion of this session, participants should be better able to:
1. Understand the role of glucocerebrosidase mutations in Parkinson’s disease
2. Discuss how rare diseases inform about common disorders
3. Evaluate the emerging role of lysosomes in neurodegeneration

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

At the conclusion of this session, participants should be better able to:
1. Identify new genes implicated in multiple system atrophy
2. Describe the progression of degeneration in multiple system atrophy
3. Understand new treatment developments for multiple system atrophy

Recommended Audience: Basic scientists, Clinical academicians, Practitioners
THURSDAY, JUNE 21, 2012

5207 Parallel Session
Marketers of cognitive decline and dementia in Parkinson’s disease
15:00 – 17:00
Location: The Auditorium, Levels 3, 4, 5
Chairs: David John Burn
Newcastle upon Tyne, United Kingdom
Marcelo Merello
Buenos Aires, Argentina
15:00 Biochemical biomarkers of mild cognitive impairment and dementia in Parkinson’s disease
Alice Chen-Plotkin
Philadelphia, PA, USA
15:40 Neuroimaging in mild cognitive impairment and Parkinson’s disease dementia
David Brooks
London, United Kingdom
16:20 Clinical markers of dementia development in Parkinson’s disease
David John Burn
Newcastle upon Tyne, United Kingdom
At the conclusion of this session, participants should be better able to:
1. List biomarkers of cognitive impairment in non-demented Parkinson’s disease patients
2. Describe which biomarkers predict long term cognitive decline in Parkinson’s disease patients
3. Discuss which biomarkers may serve as pre-clinical biomarkers of cognitive impairment in Parkinson’s disease patients
Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

5208 Parallel Session
Development of transgenic monkeys using local or systemic viral vector delivery
15:40
Chairs: Per Odin
Bremerhaven, Germany
Pierre Pollak
Geneva, Switzerland
15:00 – 17:00
Location: Wicklow Hall 1, Level 2
Chairs: Pablo Martinez-Martín
Madrid, Spain
Andrew Siderowf
Philadelphia, PA, USA
15:00 Patient-reported outcomes and Parkinson’s disease
Christopher Goetz
Chicago, IL, USA
15:40 Impairments, disability and quality of life in Parkinson’s disease
Matilde Leonardi
Milano, Italy
16:20 Decisional capacity in Parkinson’s disease
Andrew Siderowf
Philadelphia, PA, USA
At the conclusion of this session, participants should be better able to:
1. Understand the distinction between disability, health status, and quality of life concepts, and how these constructs can be measured, with particular reference to the MDS Task Force recommendations on health-related quality of life
2. Understand the concept, importance and methodology for identifying the disability and quality of life determinants, and the science to determine the effect of the change
3. Understand how Parkinson’s disease affects patients abilities to make decisions including the decision to receive aggressive treatments and consent to research participation
Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

5209 Parallel Session
Invasive therapies for advanced Parkinson’s disease
15:00 – 17:00
Location: Liffey Hall 2, Level 1
Chairs: Per Odin
Bremerhaven, Germany
Pierre Pollak
Geneva, Switzerland
15:00 Subcutaneous Apomorphine infusion
Erik Wolters
Amsterdam, Netherlands
15:40 Intestinal Levodopa infusion
Per Odin
Bremerhaven, Germany
16:20 Deep Brain Stimulation
Pierre Pollak
Geneva, Switzerland
At the conclusion of this session, participants should be better able to:
1. Describe methodology and expected clinical effects of the invasive therapies
2. Describe possible side effects and complications of the therapies
3. Discuss patient selection for invasive therapies, based on indications and contraindications
Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees
Supported by an unrestricted educational grant from EVER Neuro Pharma GmbH.
THURSDAY, JUNE 21, 2012

5308 Teaching Course

The non-motor features of Parkinson’s disease
15:00 – 17:00
Location: Wicklow Hall 2, Level 2

Chairs: Angelo Antonini
Venice, Italy
K. Ray Chaudhuri
London, United Kingdom

15:00 Phenomenology of non-motor features in Parkinson’s disease
K. Ray Chaudhuri
London, United Kingdom

15:40 How to assess the patients non-motor complaints
Angelo Antonini
Venice, Italy

16:20 Treatment of non-motor symptoms: What is available?
Tove Henriksen
Copenhagen, Denmark

At the conclusion of this session, participants should be better able to:
1. Describe the different types of non-motor features of Parkinson’s disease
2. Evaluate the importance of non-motor features and assess their severity with validated tools
3. Recognize the need of therapy for non-motor features and select appropriate medications

Recommend Audience: Basic scientists, Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees
Spasmodic torticollis, blepharospasm and hemifacial spasm in adults. Persistant severe primary hyperhidrosis of the axillae, which interferes with the activities of daily living and is resistant to topical treatment. Administration: Dysport® should only be injected by specialists who have had administration training. Biphosphanop, hexagonal span and axillary hyperhidrosis: reconstitute 500 units in 2.5 ml normal saline. Spasmodic torticollis and focal spasticity: reconstitute in 1 ml. The units of Dysport® are specific to the preparation and are not interchangeable with other preparations of botulinum toxin. Pseudoph, the dose should be lowered for patients with low muscle mass or in whom the suggested dose may result in excessive weakness. See SPC for recommendations. Arm paresis: The recommended dose is 1000 units in total, distributed among the most active arm muscles, biceps brachii (300-400 units), flexor digitorum profundus (150 units), flexor digitorum superficialis (150-250 units), flexor carpi ulnaris (150 units), flexor carpi radialis (150 units). Sites of injection should be guided by standard EMG locations, although actual sites will be determined by palpation. All muscles should be injected at one site, except for the biceps which should be injected at two sites. Paediatric cerebral palsy: Starting dose: 20 units/kg body weight given intramuscularly as a divided dose between calf muscles. If only one calf is affected, a dose of 10 units/kg body weight should be used. Consideration should be given to lowering the starting dose if there is evidence to suggest that this dose may result in excessive weakness of the target muscles. Subsequent treatment may be titrated within the range 10 units/kg and 30 units/kg divided between both legs. The maximum dose administered must not exceed 1000 units/patient. Injections may be repeated approximately every 16 weeks or as required to maintain response, but not more frequently than every 12 weeks. Very common: muscle weakness, urinary incontinence, abnormal gait, accidental injury due to falling. Spasmodic torticollis: very common: dysphagia, arm muscle weakness, accidental injury/fall. Paediatric cerebral palsy: common: arm weakness, leg muscle weakness, ataxia, tone changes, absent reflexes, abnormal gait, accidental injury due to falling. Spasmodic torticollis: very common: dysphagia, dysarthria, neck muscle weakness, upper extremity discomfort, dysphonia, neck muscle weakness, urinary incontinence. Dystonia: very common: dysphagia, dysarthria, neck muscle weakness, upper extremity discomfort. Axillary hyperhidrosis: very common: hyperhidrosis. Very common: headache, diplopia, blurred vision, dry mouth, nose, respiratory disfunction. Be you.
FACULTY LISTING

Aarsland, Dag
Stavanger, Norway
4210

Adler, Charles
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5102

Altenmüller, Eckart
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FACULTY LISTING

Olanow, C. Warren
New York, NY, USA
1105

Onofrj, Marco
Pescara, Italy
2408

O’Riordan, Sean
Dublin, Ireland
2210

Pellecchia, Maria Teresa
Naples, Italy
5206

Petronis, Art
Toronto, ON, Canada
2207

Poewe, Werner
Innsbruck, Austria
3104

Politis, Marios
London, United Kingdom
4103

Pollak, Pierre
Geneva, Switzerland
5307

Przedborski, Serge
New York, NY, USA
5102

Quinn, Niall
London, United Kingdom
3403

Rajput, Alexander
Saskatoon, SK, Canada
4208

Rascol, Olivier
Toulouse, France
1105, 4104

Ravina, Bernard
Cambridge, MA, USA
2104

Rochester, Lynn
Newcastle upon Tyne, United Kingdom
2208

Rothwell, John
London, United Kingdom
4212

Rucker, Janet
New York, NY, USA
3509

Sasaki, Hidenao
Hokkaido, Japan
5206

Saunders-Pullman, Rachel
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2403

Scherfler, Christoph
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2309

Schneider, Susanne
Lübeck, Germany
4508

Schnitzler, Alfons
Düsseldorf, Germany
4208

Schwarzschild, Michael
Sharon, MA, USA
1105

Seppi, Klaus
Innsbruck, Austria
1108

Sethi, Kapil
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3403

Shamir, Ron
Tel Aviv, Israel
2206

Siderowf, Andrew
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5209

Sidransky, Ellen
Bethesda, MD, USA
5205

Sillay, Karl
Madison, WI, USA
4403

Smith, Steve
Norfolk, United Kingdom
2405

Grazia Spillantini, Maria
Cambridge, United Kingdom
5101

Stamelou, Maria
London, United Kingdom
4308

Starr, Philip
San Francisco, CA, USA
1106

Stern, Gerald
London, United Kingdom
4211

Stern, Matthew
Philadelphia, PA, USA
2103, 4103, 4104

Stoessl, A. Jon
Vancouver, BC, Canada
3208

Stone, Jon
Edinburgh, United Kingdom
2308

Strafella, Antonio
Toronto, ON, Canada
3208, 5102

Studer, Lorenz
New York, NY, USA
2209

Sue, Carolyn
Sydney, Australia
4404

Sulzer, David
New York, NY, USA
3207

Surmeier, D. James
Chicago, IL, USA
3207

Tabrizi, Sarah
London, United Kingdom
4307

Tan, Louis
Singapore
4308

Tarsy, Daniel
Boston, MA, USA
2509

Teive, Helio
Curitiba, Brazil
2408

Temudo, Teresa
Porto, Portugal
4405

Thompson, Philip
Adelaide, Australia
2404

Timmermann, Lars
Köln, Germany
1106

Todd, Peter
Ann Arbor, MI, USA
4404

Telosso, Eduardo
Barcelona, Spain
2404

Toni, Ivan
Nijmegen, Netherlands
2208

Tuschl, Karin
London, United Kingdom
4103

Traynor, Bryan
Bethesda, MD, USA
3309

Trojanowski, John
Philadelphia, PA, USA
2104

Uc, Ergun
Iowa City, IA, USA
4406

Uitti, Ryan
Jacksonville, FL, USA
2407
We are looking for patients with early or moderate-to-severe Parkinson’s Disease to take part in one of three clinical research studies to test the safety and effectiveness of an investigational medication.

If you have patients between 30 and 85 years old who have been diagnosed with Parkinson’s Disease, and who may be interested in being referred for a clinical research study, please contact a study site near you.

For further information, including details of your nearest study site, please visit

www.parkinsons-clinicaltrial.com
Parkinson’s Disease in the advanced stage:
It’s a dire existence. It’s odd. Really. Caught in a cage of stiffness and inability. Dacepton® gets them back to life.
As the strongest non selective dopamine agonist, Dacepton® shortens the „off“-phases and reduces the intensity of dyskinesias².
Dacepton® is the therapy with continuous dopaminergic stimulation for advanced Parkinson’s disease via subcutaneous infusion.
1) Gunzler, 2009, 2) Kanovsky et al., 2002
CORPORATE THERAPEUTIC SYMPOSIA

Monday, June 18, 2012

14:15 – 15:15
Location: Liffey A, Level 1

New perspectives in management of patients with cervical dystonia

Chair: Kailash Bhatia
London, United Kingdom

Patient perspectives in the management of cervical dystonia
Alistair Newton
Helensburgh, United Kingdom

Peter Misra
London, United Kingdom

Real life use of abobotulinum Toxin: Interim analysis of ANCHOR-CD study
Richard Trosch
Southfield, MI, USA

Torticollis & Torticaput classification: Refining the assessment of cervical dystonia
Wolfgang Jost
Wiesbaden, Germany

Tuesday, June 19, 2012

13:45 – 14:45
Location: Liffey A, Level 1

The new standard of care in advancing Parkinson’s disease: Continuous dopaminergic stimulation therapy?

Chair: C. Warren Olanow
New York, NY, USA

Chair’s Introduction
C. Warren Olanow
New York, NY, USA

Levodopa carbidopa intestinal gel (LCIG): Latest evidence and its implications for Parkinson’s disease management?
Hubert Fernandez
Cleveland, OH, USA

Continuous dopaminergic stimulation therapy: Effect on symptoms, quality of life and outcomes
Per Odin
Bremerhaven, Germany

The value of care in optimizing outcomes in Parkinson’s disease
Bastiaan Bloem
Nijmegen, Netherlands

Chair’s Summary
Daniel Healy
Dublin, Ireland

Teva Pharmaceutical Industries Ltd., Teva Neuroscience Inc., and H. Lundbeck A/S

13:45 – 14:45
Location: Liffey B, Level 1

The evolution of treatment decisions in Parkinson’s disease

Chair: Anthony Schapira
London, United Kingdom

Treating motor symptoms of PD – New considerations
Robert Hauser
Tampa, FL, USA

Treating PD – More than just motor control
Werner Poewe
Innsbruck, Austria

Panel discussion and Q&A
CORPORATE THERAPEUTIC SYMPOSIA

Wednesday, June 20, 2012

Allergan, Inc.

**13:30 – 14:30**
Location: Liffey A, Level 1
Great debates and hot topics in cervical dystonia

Chair: Giovanni Fabbrini
Rome, Italy
Opening remarks
Giovanni Fabbrini
Rome, Italy
Botulinum toxin differences and similarities – the great debate
Markus Naumann
Augsburg, Germany
Hot topics in cervical dystonia – what’s the buzz?
Giovanni Fabbrini
Rome, Italy
EMG vs. no EMG and what about ultrasound – the great needle guidance debate
Axel Schramm
Erlangen, Germany
Panel discussion

Boehringer Ingelheim GmbH

**13:30 – 14:30**
Location: Liffey B, Level 1
Translating the evidence base to clinical practice:
A panel discussion
Tailor-made treatment in Parkinson’s disease

Chair: Anthony Schapira
London, United Kingdom
Panel: Anthony Lang
Toronto, ON, Canada
Jose Obeso
Pamplona, Spain
Werner Poewe
Innsbruck, Austria
Matthew Stern
Philadelphia, PA, USA

Thursday, June 21, 2012

UCB Pharma SA

**13:30 – 14:30**
Location: Liffey A, Level 1
The many dimensions of Parkinson’s disease

Chair: K. Ray Chaudhuri
London, United Kingdom
Mood and apathy in Parkinson’s disease: Is it an important issue to my patient?
Robert Hauser
Tampa, FL, USA
From physiopathology to the symptom in Parkinson’s disease: The gut theory
Dirk Woitalla
Bochum, Germany
Cognition in Parkinson’s disease: A therapeutic conundrum
Paolo Barone
Napoli, Italy
Medtronic DBS

Level A recommended therapy by MDS-ES & EFNS for treating refractory PD
**EXHIBITOR INFORMATION**

**Exhibit Hall**
Location: The Forum, Ground Level

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:
Monday, June 18 .......... 10:00 – 18:30
Tuesday, June 19 .......... 10:00 – 18:00
Wednesday, June 20 ...... 10:00 – 18:00
Thursday, June 21 ........ 9:30 – 15:00

**Exhibitor Registration**
Location: Ground Level Foyer

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

Exhibitor Registration Desk hours are as follows:
Saturday, June 16 ......... 16:00 – 20:00
Sunday, June 17 .......... 7:00 – 18:00
Monday, June 18 .......... 7:00 – 18:00
Tuesday, June 19 .......... 7:00 – 18:00
Wednesday, June 20 ...... 7:00 – 18:00
Thursday, June 21 ........ 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 dismantlement hours.

Exhibitor Personnel Badge (Yellow): Allows admittance to the Exhibit Hall (The Forum) 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.
EXHIBITOR DIRECTORY

ABBOTT
200 Abbott Park Road
Abbott Park, IL 60064
United States
Telephone: +1 414-937-6100
Website: www.abbott.com

Booth #: C18

Abbott is a global, broad-based health care company devoted to the discovery, development, manufacturing and marketing of pharmaceuticals and medical products, including nutritionals, devices and diagnostics. The company employs nearly 90,000 people and markets its products in more than 130 countries.

ALLERGAN, INC.
2525 Dupont Drive
Irvine, CA 92612
United States
Telephone: +1 714-246-4500
Fax: +1 714-246-6987
Website: www.allergan.com

Booth #: C9

Founded in 1950, Allergan, Inc., is a multi-specialty health care company that discovers, develops and commercializes innovative pharmaceuticals, biologics and medical devices that enable people to live life to its greatest potential – to see more clearly, move more freely, express themselves more fully. The Company employs approximately 8,000 people and operates state-of-the-art R&D facilities and world-class manufacturing plants. In addition to its discovery-to-development research organization, Allergan has global marketing and sales capabilities with a presence in more than 100 countries.

ARIZONA PARKINSON’S DISEASE CONSORTIUM AND THE NATIONAL BRAIN AND TISSUE RESOURCE FOR PARKINSON’S DISEASE AND RELATED DISORDERS
10515 W. Santa Fe Drive
Sun City, AZ 85351
USA
Telephone: +1 623-876-5643
Fax: +1 623-815-2967
Website: www.brainandbodydonationprogram.org

Table #: 15

The National Brain and Tissue Resource for Parkinson’s Disease and Related Disorders is funded by the US National Institute of Neurological Disorders and Stroke to provide short post-mortem brain tissue and matching clinical characterization data to researchers at subsidized cost-recovery rates. See our exhibitor table and our website at www.brainandbodydonationprogram.org.

ATAXIA IRELAND
4 Leopardstown Business Centre
Ballyogan Avenue
Dublin 18
Ireland
Telephone: +353 860 200545
Fax: +353 12999 055
Website: www.ataxia.ie

Table #: 14

Ataxia Ireland is the national charity in Ireland supporting members with an Ataxia and their families. We provide essential services to our members, respite counselling and socials for members and friends.

We support research projects in all Ataxias worldwide.
EXHIBITOR DIRECTORY

BRITANNIA PHARMACEUTICALS LTD
Park View House
65 London Road
Newbury, Berkshire RG14 1JN
United Kingdom
Telephone: +44 1635 568400
Fax: +44 1635 568401
Website: www.britannia-pharm.com

Booth #: E5

Britannia Pharmaceuticals Limited is a UK based pharmaceutical company specializing in niche innovative products for medical conditions, and in particular, the treatment of patients in the complex stage of Parkinson’s disease.

The need for apomorphine as a treatment option for Parkinson’s disease has led to the development of our APO-go, and other APO products which are available in many countries through our Distribution or Licensing Partners.

CHELSEA THERAPEUTICS
3530 Toringdon Way, Suite 200
Charlotte, NC 28277
United States
Telephone: +1 704-341-1516
Fax: +1 704-752-1479
Website: www.chelseatherapeutics.com

Booth #: E15

Chelsea Therapeutics is a US based biopharmaceutical development company that acquires and develops innovative products for the treatment of a variety of human diseases. Chelsea’s most advanced drug candidate, NORTHERA™ (droxidopa), is an orally active synthetic precursor of norepinephrine initially being developed for the treatment of neurogenic orthostatic hypotension.

DYSTONIA IRELAND
33, Larkfield Grove,
Harold’s Cross
Dublin 6W
Ireland
Telephone: +353 1 492 2514
Fax: +353 1 492 2565
Website: www.dystonia.ie

Table #: 5

Dystonia Ireland was founded in 1998. The aims of Dystonia Ireland are to promote and encourage scientific research into the causes and treatments of dystonia, raise the level of awareness amongst the general public and the medical profession, offer support and information to all people with dystonia and their families nationwide.

DYSTONIA MEDICAL RESEARCH FOUNDATION
1 E. Wacker Drive, Suite 2810
Chicago, IL 60601
USA
Telephone: +1 312-755-0198
Fax: +1 312-803-0138
Website: www.dystonia-foundation.org

Table #: 13

The Dystonia Medical Research Foundation is dedicated to advancing research for improved treatments and ultimately a cure, promoting awareness and education, and supporting the well-being of affected individuals and families.
EXHIBITOR DIRECTORY

EU JOINT PROGRAMME – NEURODEGENERATIVE DISEASE RESEARCH
Health Research Board
73 Lower Baggot St.
Dublin 2
Ireland
Telephone: +353 1234 5203
Website: www.neurodegenerationresearch.eu

Table #: 9

The EU Joint Programme in Neurodegenerative Disease Research (JPND) is an innovative, collaborative research initiative established to combat the mounting challenges posted by neurodegenerative diseases, in particular Alzheimer’s. The JPND was established as the pilot of the Joint Programming collaborative approach to research in which 25 member countries have come together to define a common vision, a strategic research agenda and a management structure.

EUROPEAN PARKINSON’S DISEASE ASSOCIATION
1 Northumberland Avenue
Trafalgar Square
London WC2N 5 BW
United Kingdom
Telephone: +44 207 872 5510
Fax: +44 207 872 5611
Website: www.epda.eu.com

Booth #: 10

EPDA is the only European umbrella organization for Parkinson’s disease, representing 45 member organizations and advocates for the rights and needs of over 1.2 million people. Its vision is to enable a full life whilst supporting the search for a cure; aiming to raise the profile of Parkinson’s, enabling people to be treated effectively and equally throughout Europe.

EVER NEURO PHARMA GMBH
Oberburgau 3
Unterach, 4866
Austria
Telephone: +43 7665 20 55530
Fax: +43 7665 20 555910
Website: www.everpharma.com

Booth #: C20

Apomorphin for advanced stage of Parkinson’s disease à Dompamine Agonist

E(YE)BRAIN
1 bis, rue Jean le Galleu
Ivry-sur-Seine F-94200
France
Telephone: +33 1 8364 3738
Fax: +33 1 4672 5190

Booth #: E17

The EyeBrain Tracker is the first medical device based on a powerful functional marker: eye movements. EyeBrain Trackers have proved its efficacy in helping diagnose early, discriminate and follow up Parkinsonian syndromes.
**EXHIBITOR DIRECTORY**

**FHC, INC.**
1201 Main Street
Bowdoin, ME 04287
United States
Telephone: +1 207-666-8190
Fax: +1 207-666-8292
Website: www.fh-co.com

**Booth #: E16**

Advancing Cranial microTargeting Worldwide

For over 40 years FHC has served the neuroscience community with a commitment to innovate through collaboration. New: Telescoping Insertion Tube for 28cm DBS Lead Placement. Demo: FHC’s WayPoint™ Navigator Cranial Planning, LP+™ Recording/Stimulating, microTargeting™ Platform Patient Customizable Stereotactic, and STar™ Microdrive Systems plus D.ZAP™ microelectrodes - supported with 24X7 NeuroServices.

**GE HEALTHCARE**
Poliards Wood, Nightingales Lane
Chalfont, St. Giles, Bucks HP8 4SP
United Kingdom
Telephone: +44 1494 544000
Website: www.gehealthcare.com

**Booth #: E19**

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, patient monitoring systems, drug discovery and biopharmaceutical manufacturing technologies help our customers to deliver better care to more people around the world at a lower cost. We partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

**FRIEDREICH’S ATAXIA RESEARCH ALLIANCE IRELAND (FARA IRELAND)**
40 Templeroan Avenue, Rathfarnham
Dublin
Ireland
Telephone: +353 1 493 0413
Fax: +353 45 401 371
Website: www.faraireland.ie

**Booth #: E14**

GlaxoSmithKline – one of the world’s leading research-based pharmaceutical and healthcare companies – is committed to improving the quality of human life by enabling people to do more, feel better and live longer.

GSK makes medicines, vaccines and consumer healthcare products. Its business accounts for 4.8% of the world’s pharmaceutical market.

GSK provides products, money, time and equipment to non-profit organizations to help improve health and education in under-served communities. It focuses on programs that are innovative, sustainable, and bring real benefits to those most in need.

**Table #: 6**

FARA Ireland is a non-profit NGO representing people with Friedreich’s Ataxia.

Objectives:
1. To raise awareness of the condition among professionals and increase public awareness,
2. To communicate results of the latest studies and clinical trials to Friedreich’s Ataxia patients,
3. To raise funds for research into the condition.
GREAT LAKES NEUROTECH
10055 Sweet Valley Drive, Suite 1
Cleveland, OH 44125
United States
Telephone: +1 216-361-5410
Fax: +1 216-361-5420
Website: www.GLNeurotech.com

Booth #: C22
Kinesia HomeView™ is a compact, web-based motor assessment system that captures Parkinson’s symptoms at home: 1. Clinicians use a web interface to define an evaluation. 2. The patient takes home a tablet-based kit to record diary information and follow video guided assessments. 3. The clinician views online reports and videos.

HDYO (HUNTINGTON’S DISEASE YOUTH ORGANIZATION)
116 Yewdale Crescent
Coventry CU2 2FT
England
Website: www.hdyo.org

Table #: 8
International non-profit voluntary organization set up to specifically provide support for young people around the world impacted by Huntington’s disease.

HUNTINGTON’S DISEASE ASSOCIATION OF IRELAND
Carmichael Centre
North Brunswick Street
Dublin 7
Ireland
Telephone: +353 1 872 1303
Website: www.huntingtons.ie

Table #: 7
Huntington’s Disease Association of Ireland is a national voluntary organization providing consultation, information and individualized support to those diagnosed with Huntington’s disease, those at risk, their families and their health care teams.

IPSEN
65 Quai Georges Gorse
Boulogne Billancourt 92650
France
Telephone: +33 1 58 33 5179
Website: www.ipsen.com

Booth #: B13
Ipsen is an innovation-driven international specialty pharmaceutical group with over 20 products on the market and a total worldwide staff of nearly 4,500. Its development strategy is based on its activities in specialty medicine, growth drivers in targeted therapeutic areas (oncology, endocrinology, neurology and haematology) combined with primary care products.

KINETICS FOUNDATION
P.O. Box 645
Los Altos, CA 94023
United States
Telephone: +1 650-523-1310
Fax: +1 650-917-2130
Website: www.kineticsfoundation.org

Table #: 16
The Kinetics Foundation focuses on drug delivery research across the blood brain barrier by utilizing multiple scientific disciplines. It created the Objective Parkinson’s Disease Measurement (OPDM) System comprised of dexterity and Mobility measurement devices to assist researchers in better measuring patients’ symptoms for Parkinson’s disease.
EXHIBITOR DIRECTORY

LUNDBECK US
Four Parkway North
Deerfield, IL 60015
United States
Telephone: +1 847-282-1000
Fax: +1 847-282-1001
Website: www.lundbeckinc.com/us

Booth #: B5

Headquartered in Deerfield, Illinois, with a portfolio of 17 specialty therapies and a pipeline of promising central nervous system (CNS) drugs, Lundbeck Inc. is committed to providing innovative therapies that fulfill unmet medical needs of people with CNS disorders and rare diseases for which few, if any, effective treatments are available.

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 #: D16

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. Each year, 7 million patients benefit from our technology. Medtronic DBS Therapy has been used in more than 80,000 patients for the treatment of Parkinson’s disease, essential tremor and dystonia.

MERZ PHARMACEUTICALS GMBH
Eckenheimer Landstrasse 100
Frankfurt 60313
Germany
Telephone: +49 69 15030
Fax: +49 69 1503722
Website: www.merz.com

Booth #: D8

Merz Pharmaceuticals is a research based pharmaceutical company, headquartered in Frankfurt, Germany, with key competences in neuroreceptor biology. Merz has developed memantine for moderate to severe Alzheimer disease and Xeomin®, a botulinum toxin A free from complexing proteins.

MOVE 4 PARKINSONS
Unit 18, Canal Walk
Parkwest Industrial Park
Dublin 12
Ireland
Telephone: +353 876 817567
Website: www.move4parkinsons.blogspot.com

Table #: 1

M4P has been set up to draw on the experience and expertise of People With Parkinson’s (PWP’s) to educate, encourage and empower other PWP’s to fulfill their potential and improve their quality of life.
EXHIBITOR DIRECTORY

NATIONAL SPASTIC TORTICOLLIS ASSOCIATION
9920 Talbert Ave.
Fountain Valley, CA 92708
United States
Telephone: +1 714-378-9837
Website: www.torticollis.org

Table #: 12

The National Spasmodic Torticollis Association is a non-profit organization supporting the needs and well-being of individuals and families affected by spasmodic torticollis/cervical dystonia. We provide a support hotline; magazines; symposiums; network of support groups & contact people; website and email support; message forum; neurologists directory; and information packets.

NEUROSTAR
Dachsklingeweg 1771067
Germany
Telephone: +49 7071 41 5065
Fax: +49 7071 41 5067
Website: www.neurostar.de

Booth #: C19

The most powerful and easy-to-use MER-System for DBS-Surgery. It integrates:
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NOVARTIS PHARMA AG
Forum 1, Novartis Campus
Basel 4056
Switzerland
Telephone: +41 61 324 1111
Fax: +41 61 324 8001
Website: www.novartis.com

Booth #: E9

Novartis provides healthcare solutions that address the evolving needs of patients and societies. Headquartered in Basel, Switzerland, Novartis offers a diversified portfolio to best meet these needs: innovative medicines, eye care, cost-saving generic pharmaceuticals, preventive vaccines and diagnostic tools, over-the-counter and animal health products. Novartis is the only global company with leading positions in these areas. Novartis Group companies employ approximately 121,000 full-time-equivalent associates and operate in over 140 countries around the world.

ORION CORPORATION ORION PHARMA
Orionintie 1
Espoo 02101
Finland
Telephone: +358 10 4261
Website: www.orion.fi

Booth #: E9

Orion Corporation is a Finnish listed company which is dedicated to treating and preventing disease by discovery and developing innovative medicinal treatments. Orion is the originator of Stalevo® (levodopa, carbidopa, entacapone) for Parkinson’s disease.
EXHIBITOR DIRECTORY

PARKINSON’S MOVEMENT
1 St. Clement’s Court
London EC4N 7HB
United Kingdom
Telephone: +44 1892 531123
Website: www.parkinsonsmovement.com

Table #: 2

PM is a research-driven, patient-driven, organization which aims to engage the international patient community, improve patient-scientist communication and encourage partnership to stimulate and drive the research agenda.

PROTOKINETICS
60 Garlor Drive
Havertown, PA 19083
USA
Telephone: +1 610-449-4879
Fax: +1 610-853-2925
Website: www.protokinetics.com

Booth #: E20

In addition to distributing the world leading GAITRite walkway system, the PrrotoKinetics PKMAS software and sensor system captures real-time temporal (timing) and spatial (distance) calculations, including the instantaneous center of pressure, along with static and dynamic movements and evaluations. Some of the testing and training protocols include: walking (with or without dual tasking), TUG, Figure 8’s, FSST, 360° turns, Fukuda, side-stepping, unilateral and bilateral stability. The wide testing surface and low-profile allows for dynamic, real-world movements never before available on existing balance and/or pressure plate systems.

ST. JUDE MEDICAL
AV Da Vinci 11, Box F1
Zaventem 1935
Belgium
Telephone: +32 2 774 6810
Fax: +32 2 774 6843
Website: www.sjm.com

Booth #: D19

St. Jude Medical develops medical technology designed to put more control into the hands of those who treat neurological, cardiac and chronic pain patients worldwide. SJM has provided leading neurostimulation therapy innovations for 30 years. The company is dedicated to advancing the practice of medicine by reducing risk wherever possible and contributing to successful patient outcomes.

TEVA
5 Basel Street
Petah Tikva 49131
Israel
Telephone: +972 3 926 7607
Fax: +972 3 926 7878
Website: www.tevapharm.com

Booth #: B7

Teva Pharmaceutical Industries Ltd. is a leading global pharmaceutical company, committed to increasing access to high-quality healthcare by developing, producing and marketing affordable generic drugs as well as innovative and specialty pharmaceuticals and active pharmaceutical ingredients. Headquartered in Israel, Teva is the world’s largest generic drug maker, with a global product portfolio of more than 1,300 molecules and a direct presence in about 60 countries. Teva’s branded businesses focus on CNS, oncology, pain, respiratory and women’s health therapeutic areas as well as biologics. Teva currently employs approximately 46,000 people around the world and reached $18.3 billion in net revenues in 2011.
H. LUNDBECK A/S
Ottiliavej 7-9
Valby 2500
Denmark
Website: www.lundbeck.com

**Booth #: B7**

H. Lundbeck A/S is an international pharmaceutical company dedicated in research and development of new drugs for treatment of CNS disorders including depression, schizophrenia, Alzheimer’s disease and Parkinson’s disease. Research has been the foundation of Lundbeck activities for more than 50 years, and the company’s mission is to improve the quality of life for people suffering from psychiatric and neurological disorders.

TEVA NEUROSCIENCE
901 E. 104th Street, Suite 900
Kansas City, MO 64131
USA
Website: www.tevaneuroscience.com

**Booth #: B7**

Teva Neuroscience is dedicated to the investigation, development and commercialization of innovative products and services that address patient needs in the areas of multiple sclerosis, Parkinson’s disease and other neurological disorders. Both Copaxone for MS, and Azilect for PD, have established leadership positions in their respective markets. Our vision is to be the North American leader in neurology through the quality of our people, the quality of our products and our focus on the patient.

THE CURE PARKINSON’S TRUST
1 St Clement’s Court
London EC4N 7HB
United Kingdom
Website: www.cureparkinsons.org.uk

**Table #: 3**

The Cure Parkinson’s Trust is dedicated to finding a cure. It funds and facilitates dynamic research and involves people with Parkinson’s in this vision.

TREMOR ACTION NETWORK
PO Box 5013
Pleasanton, CA 94566-0513
United States
Telephone: +1 510-681-6565
Fax: +1 925-369-0485
Website: www.tremoraction.org

**Table #: 11**

TremorAction.org (TAN) connects the neurology bench to Tremor patients through awareness, advocacy and research. Stop by our table to discuss the healthcare professional and patient services we provide. “Life with Movement Disorders” DVD in English and Español, “Spikes & Spasms” quarterly newsletter, and other free resources are available.

UCB PHARMA SA
Allée de la Recherche 60
1070 Brussels
Belgium
Telephone: +32 2 559 9999
Fax: +32 2 559 9900
Website: www.ucb.com

**Booth #: 19**

UCB, headquartered in Brussels, Belgium, is a global biopharmaceutical company dedicated to the research, development and commercialization of innovative medicines with a focus on the fields of central nervous system and immunology disorders. Employing approximately 8,000 people in over 40 countries, UCB generated revenue of EUR 3.2 billion in revenue in 2010. UCB is listed on Euronext Brussels (symbol: UCB).
**EXHIBITOR DIRECTORY**

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Wisepress.com, Europe’s leading conference bookseller, has a complete range of relevant books and journals which can be purchased at the stand or, if you would rather not carry them, posted to you – Wisepress will deliver worldwide. We also have a comprehensive medical and scientific online bookshop with great offers.

**WORLD PARKINSON CONGRESS**

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 #: 4**

The 3rd World Parkinson Congress | WPC 2013 will take place from October 1-3, 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 TOURS—MONDAY, JUNE 18

GUIDED POSTER TOUR 1 – Basic science

Liffey Hall 1, Level 1
12:45 - 14:15
Monday, June 18, 2012

Tour Leaders:
Serge Przedborski, New York, NY, USA
Ryuji Kaji, Tokushima City, Japan

1473 The AAA-ATPase VPS4 regulates extracellular secretion and lysosomal targeting of α-synuclein
T. Hasegawa, M. Konno, T. Baba, N. Sugeno, A. Kikuchi, E. Miura, A. Takeda (Sendai, Japan)

1455 GDNF replacement augments motor impairments and nigrostriatal dopamine deficits in 12 month old mice with a partial deletion of GDNF
H.A. Boger, G.A. Gerhardt, A. C. Granholm, D.M. Littrell (Charleston, SC, USA)

1468 Characterization of adult neurogenesis in a transgenic mouse model of multiple system atrophy
P. Fuchs, L. Aigner, W. Poewe, G.K. Wenning, N. Stefanova (Innsbruck, Austria)

1469 ATP13A2 mutations impair mitochondrial function in fibroblasts from patients with Kufor-Rakeb syndrome
A. Grünwald, B. Arns, A. Rakovic, A. Münchau, A. Ramirez, C.M. Sue, C. Klein (Lübeck, Germany)

1478 A rodent model for direct visualization of α-synuclein oligomers in the nigrostriatal system
L.V. Kalia, H. Dimant, S.K. Kalia, L.N. Kibuuka, D. Ebrahimi-Fakhari, N.R. McFarland, P.J. McLean (Toronto, ON, Canada)

1447 Inflammatory responses are attenuated in incidental Lewy body disease
R.S. Akhtar, J.M. Milber, J.V. Noorigian, L.R. White, H. Petrovitch, G.W. Ross, J.E. Duda (Philadelphia, PA, USA)

1476 Mild dopaminergic lesions are accompanied by robust changes in subthalamic nucleus activity

1480 Enteric and central nervous system pathology in a novel mouse model: Implications for pathogenesis in pre-motor Parkinson’s disease
L.P. Kelly, P.M. Carvey, R.A.E. Bakay, J.H. Kordower (Chicago, IL, USA)

1521 Implication of autophagy in Parkinson’s disease: Rotenone-based models
N. Xiong, M. Jia, J. Xiong, J. Huang, T. Wang (Wuhan, China)

GUIDED POSTER TOUR 2 – Lewy Body Dementia and other dementias in movement disorders

Liffey Hall 2, Level 1
12:45 - 14:15
Monday, June 18, 2012

Tour Leaders:
Timothy Counihan, Galway, Ireland
David John Burn, Newcastle upon Tyne, United Kingdom

211 Differential diagnosis between dementia with Lewy bodies and Creutzfeldt-Jakob disease: Two intriguing cases

206 Cerebral vasculitis mimicking frontotemporal dementia
A. Mc Carthy, E. Mulroy, K. O’Rourke, T. Lynch (Dublin, Ireland)

37 Comparison of The Movement Disorder Society criteria for Parkinson’s disease dementia with routine clinical neuropsychological testing
B.R. Barton, B. Bernard, G.T. Stebbins, J. Goldman, B. Dubois, C.G. Goetz (Chicago, IL, USA)

73 Parkinson’s disease patients fulfilling level-I criteria for dementia differ in ADL functions and phenotype

207 The evolutionarily conserved function of HtrA2 in mice prevents neurodegeneration by oligomeric α-synuclein
M.M. Rahman, M. L. Liu, S. Akhter, H.J. Kim, S.T. Hong (Jeonju, Korea)

203 Safety, tolerability, and efficacy of armodafinil therapy for hypersomnia associated with dementia with Lewy bodies
B. Boeve, K. Kuntz, D. Drubach, L. Allen, D. Drubach (Rochester, MN, USA)

209 Neuropsychological differences in mild cognitive impairment (MCI) with symptoms of Lewy body disease (LBD)/Parkinson’s disease (PD) and other MCI causes

204 Pathological accumulation of α-synuclein and Aβ in Parkinson’s disease with dementia
M.C. Campbell, P.T. Kozlowski, N.J. Cairns, B.A. Racect, S.D. Tabbal, J.S. Perlmutter (St. Louis, MO, USA)

44 Elevated homocysteine levels predict cognitive dysfunction in an incident cohort of non-demented Parkinson’s disease patients
G.W. Duncan, T.K. Khoo, A.J. Yarnall, J.T. O’Brien, D.J. Brooks, R.A. Barker, D.J. Burn (Newcastle upon Tyne, United Kingdom)

113 Cognitive symptoms in a population-based cohort to study parkinsonism
E.J. Vollstedt, J. Grat, A. Lorwin, J. Hagenah, V. Tadic, N. Brüggemann, A. Schmidt, S. Tunc, J. Hampf, L. Piskol, C. Klein, M. Kasten (Lübeck, Germany)
GUIDED POSTER TOURS—MONDAY, JUNE 18

GUIDED POSTER TOUR 3 - Parkinson’s disease: Cognition

Wicklow Hall 1, Level 2
12:45 - 14:15
Monday, June 18, 2012
Tour Leaders:
Murat Emre, Istanbul, Turkey
Hubert Fernandez, Cleveland, OH, USA

95 Correlation of cognitive impairment evaluated by Montreal Cognitive Assessment with functional brain imaging of Parkinson’s disease patients
K. Ohta, T. Osada, T. Tajima, M. Seki, Y. Shinohara (Tokyo, Japan)

76 Visual sampling during walking in people with Parkinson’s disease and the influence of task complexity
S. Lord, B. Galina, D. Daud, N. Archibald, D. Burn, L. Rochester (Newcastle upon Tyne, United Kingdom)

109 Severe olfactory dysfunction is predictive of dementia associated with Parkinson’s disease: A 3-year longitudinal study
T. Baba, A. Kikuchi, K. Hirayama, Y. Nishio, Y. Hosokai, S. Kanno, T. Hasegawa, N. Sugeno, M. Konno, E. Miura, E. Mori, A. Takeda (Sendai, Japan)

110 A novel test for assessing gait under multi-task conditions: Comparison of the performance among adults, elderly and patients with Parkinson’s disease
E. Tardelli, N. Santo, R. Bovi, D. Bertolo, M.E.P. Piemonte (Sao Paulo, Brazil)

75 Olfactory dysfunction correlation to non-motor symptoms in Parkinson’s disease patients
G.J. Lopez, K. Bayulikem, B. McElroy, M. Brooks, B. Bayulikem, M. Hallett (Bethesda, MD, USA)

83 GBA mutation carriers with Parkinson’s disease are not at increased risk for cognitive impairment

106 Association between olfactory dysfunction and cognition in the PPMI study
A. Siderowf, J.F. Morley, J.E. Duda, D. Weintraub, For the PPMI Investigators (Philadelphia, PA, USA)

41 Motor impulsivity in Parkinson’s disease subtypes: Postural instability with gait difficulty versus tremor predominant
D.O. Claassen, S.A. Wylie (Nashville, TN, USA)

116 Dual task effects during sentence production in Parkinson’s disease
J.P. Wilson, L.J.P. Allmann, A.A. Hazamy, E. Stegemöller, M.S. Okun, C.J. Hass (Gainesville, FL, USA)

88 Baseline data of the DeNoPa-Kassel cohort: Biomarkers and non-motor features of 160 drug naïve PD subjects and 115 matched healthy controls
B. Mollenhauer, E. Trautmann, T. Wicke, J. Ebentheuer, F. Sixel-Döring, C. Trenkwalder, DeNoPa Study Group (Kassel, Germany)

GUIDED POSTER TOUR 4 - Sleep disorders and RLS

Wicklow Hall 2, Level 2
12:45 - 14:15
Monday, June 18, 2012
Tour Leaders:
Per Odin, Bremerhaven, Germany
Bart Van De Warrenburg, Nijmegen, Netherlands

Supported by an unrestricted educational grant from UCB Pharma SA.

688 Restless legs syndrome in Korean patients with drug-naïve Parkinson’s disease: A nation-wide study

676 Quantifying daytime sleepiness in Parkinson’s disease
K. Kotschet, W. Johnson, R. Griffiths, M. Horne (Fitzroy, Australia)

683 How does parkinsonism start? Prodromal parkinsonism motor changes in idiopathic REM sleep behavior disorder
R.B. Postuma, A.E. Lang, J.F. Gagnon, A. Pelletier, J. Montplaisir (Montreal, QC, Canada)

1228 Restless legs syndrome outside the blood-brain barrier – Evidence from domperidone
S. Rios Romenets, Y. Dauvilliers, V. Cohen De Cock, B. Carlander, S. Bayard, C. Galatas, C. Wolfson, R. Postuma (Montreal, QC, Canada)

673 Sleep and circadian rhythm disruption in incident Parkinson’s disease – A multimodal analysis

687 REM sleep without atonia and freezing of gait in Parkinson’s disease
A. Videnovic, C.C. Martin, J. Planetta, L. Alibiglou, D.E. Villancourt, C.D. MacKinnon (Chicago, IL, USA)

674 Effects of dopaminergic medications on objective and subjective sleep in Parkinson’s disease
L.M. Chahine, J. Daley, S. Horn, A. Colcher, H. Hurtig, C. Cantor, N. Dahodwala (Philadelphia, PA, USA)

1227 A rare variant near a potassium channel-related gene in familial restless legs syndrome

1215 Comparison of pregabalin, pramipexole and placebo effects on symptoms, limb movements and sleep maintenance in restless legs syndrome (Willis-Ekbom disease)

684 Sleep disturbances and dysautonomic dysfunction are associated in patients with Parkinson’s disease
GUIDED POSTER TOURS—TUESDAY, JUNE 19

Liffey Hall 1, Level 1
12:15 - 13:45
Tuesday, June 19, 2012
Tour Leaders:
Eduardo Tolosa, Barcelona, Spain
Anthony Schapira, London, United Kingdom

409 Bilateral STN stimulation reduces the occurrence of freezing of gait in Parkinson’s disease
H. Devos, G. Vervoort, L. Münks, W. Vandenbergh, B. Nuttin, A. Nieuwboer (Leuven, Belgium)

366 Fox Trial Finder (FTF): Online clinical trial matching to connect subjects with Parkinson’s trials
M. Frasier, S. Chowdhury, C.C. Meunier, D. Brooks (New York, NY, USA)

349 Continuous subcutaneous carbidopa improves levodopa pharmacokinetics in Parkinson’s disease patients
Y. Caraco, N. Giladi, S. Oren, P.A. LeWitt (Jerusalem, Israel)

346 A phase III clinical trial of coenzyme Q10 (QE3) in early Parkinson’s disease: Parkinson Study Group QE3 Investigators
M.F. Beal (New York, NY, USA)

408 Accordion pill carbidopa/levodopa for improved treatment of advanced Parkinson’s disease symptoms

433 Strength training outcomes for airway protection in PD
C.M. Sapienza, M. Troche, E.P. Silverman, J. Rosenbek, N. Musson (Gainesville, FL, USA)

419 Gait improvement in patients with Parkinson’s disease after training in real and virtual environment

430 Dopamine agonists and dyskinesia in advanced Parkinson’s disease: A network meta-analysis of rotigotine, pramipexole and ropinirole as adjunct therapy to levodopa
E. Senior, P. Dedeken, H. Naci (Brussels, Belgium)

411 Randomized, double-blind, double-dummy study of continuous infusion of levodopa-carbidopa intestinal gel in patients with advanced Parkinson’s disease: Efficacy and safety

385 Randomized, phase 3, double-blind, double-dummy study of levodopa-carbidopa intestinal gel in patients with advanced Parkinson’s disease: Functional and quality-of-life outcomes

GUIDED POSTER TOUR 5 - Parkinson’s disease: Clinical trials

GUIDED POSTER TOUR 6 - Surgical Therapy: Parkinson’s disease

Liffey Hall 2, Level 1
12:15 - 13:45
Tuesday, June 19, 2012
Tour Leaders:
Pierre Pollak, Geneva, Switzerland
Philip Starr, San Francisco, CA, USA

Supported by an unrestricted educational grant from Medtronic.

533 Effects of subthalamic nucleus lesions and stimulation upon corticostriatal afferents in the 6-hydroxydopamine-lesioned rat
R.H. Walker, C. Moore, G. Davies, L. Dirling, R.J. Kock, C.K. Meshul (Bronx, NY, USA)

534 Evaluation of electrode design on activation volumes produced during deep brain stimulation
S.N. Washburn, C.R. Butson (Plano, TX, USA)

536 Parkinson’s Study Group Neurosurgical Working Group (PSG-NSWG) deep brain stimulation (DBS) non-motor symptoms (NMS) survey: Real-world preoperative practice patterns
M.K. York, L. Marsh, J. Jimenez-Shahed, M.S. Okun, E. Moro, R. Kumar (Houston, TX, USA)

470 Deep brain stimulation and decision making in apathetic patients: A PET study
F. Antonelli, A.P. Strafella, Y.Y. Poon, A.M. Lozano, M. Hodajé, G. Pellecchia, F. Valzania, J.H. Ko, A. Lang, S. Houle, E. Moro (Toronto, ON, Canada)

462 Comprehensive, multi-disciplinary DBS screening for Parkinson’s patients: No room for “short cuts”
H. Abboud, A. Machado, M. Deogaonkar, A. Ahmed, M. Gostkowsk, S. Cooper, I. Itin, P. Sweeney, M. Pandya, C. Kubu, D. Flioden, P. Ford, H. Fernandez (Cleveland, OH, USA)

521 Is age a predictor for length of hospital stay in deep brain stimulation?
E.M. Presant, Y. Song, P. Konrad, J. Neimat, F. Phibbs (Nashville, TN, USA)

484 Saccadic eye movement abnormalities in Parkinson’s disease treated by levodopa and deep brain stimulation
M. Dec, M. Rudzinska, M. Tutaj, A. Szczudlik (Krakow, Poland)

522 The dominant subthalamic nucleus: A gait analysis study

515 Randomized multicenter trial comparing bilateral subthalamic nucleus DBS and bilateral globus pallidus internus DBS for advanced Parkinson’s disease (NSTAPS)
V.J. Odekerken, T. van Laar, A. Mosch, J. van Vught, P.C. Nijssen, B.A. Schmand, P.R. Schuurman, R.M. de Bie (Amsterdam, Netherlands)

524 Stereotactic neurosurgery for movement disorders in a world perspective. Results from the WSSFN-supported survey
V. Jourdain, G. Schechtmann (Stockholm, Sweden)
GUIDED POSTER TOURS—TUESDAY, JUNE 19

GUIDED POSTER TOUR 7 - Rating scales and assessment tools

<table>
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<td>Tuesday, June 19, 2012</td>
<td>Tour Leaders:</td>
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<tr>
<td>How slow is too slow? Objective measurement of bradykinesia in Parkinson's disease using novel non-invasive devices</td>
<td>J.E. Alty, S. Jamieson, M.A. Lones, S.L. Smith (Leeds, United Kingdom)</td>
</tr>
<tr>
<td>Calibration of the UPDRS to the MDS-UPDRS</td>
<td>G.T. Stebbins, C.G. Goetz, B.C. Tilley (Chicago, IL, USA)</td>
</tr>
<tr>
<td>The association between NT-proCNP, functional capacity and clinical stage in patients with Parkinson's disease</td>
<td>D. Koziorowski, R. Tomasiuk, S. Szlufik, A. Friedman (Warsaw, Poland)</td>
</tr>
<tr>
<td>Determining minimal clinically important difference for health-related quality of life scales in Parkinson's disease</td>
<td>Y. Winter, D. Lubbe, WH. Oertel, R. Dodel (Marburg, Germany)</td>
</tr>
<tr>
<td>Freezing of gait in Parkinson’s disease: Associations with disease severity, falls, quality of life and clinical balance measures</td>
<td>R.A. Gruber, L.R.S. Almeida, J.H. Goldstein Elman, N.N. Negreiros, G.T. Valença (Toronto, ON, Canada)</td>
</tr>
<tr>
<td>Metric evaluation of a novel scale to assess psychosis in patients with Parkinson’s disease</td>
<td>W.G. Ondo, H. Peng (Houston, TX, USA)</td>
</tr>
<tr>
<td>Quantifying freezing of gait in Parkinson’s disease during the instrumented timed Up and Go test</td>
<td>F.B. Horak, M. Mancini, R. Cohen, J.J. Nutt (Portland, OR, USA)</td>
</tr>
<tr>
<td>MDS-UPDRS non-English translation program</td>
<td>C.G. Goetz, G.T. Stebbins, N. LaPelle, J. Huang, B.C. Tilley (Chicago, IL, USA)</td>
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GUIDED POSTER TOUR 8 - Parkinson's disease: Neuropharmacology

<table>
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<th>Wicklow Hall 2, Level 2</th>
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<tr>
<td>Tuesday, June 19, 2012</td>
<td>Tour Leaders:</td>
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<tr>
<td>Determination of plasma, brain and cerebrospinal fluid levels of L-DOPA in the MPTP-lesioned cynomolgus macaque model of Parkinson's disease</td>
<td>P. Huot, T.H. Johnston, J.B. Koprich, S.H. Fox, J.M. Brotchie (Toronto, ON, Canada)</td>
</tr>
<tr>
<td>Medication reminder service for mobile phones; an open usability study in patients with Parkinson's disease</td>
<td>T. Keränen, S. Likkonen (Kuopio, Finland)</td>
</tr>
<tr>
<td>Maintenance of constant steady state therapeutic plasma concentrations of levodopa following its continuous subcutaneous administration with carbidopa</td>
<td>O. Yacoby-Zeevi, P.A. LeWitt (West Bloomfield, MI, USA)</td>
</tr>
<tr>
<td>Adherence to once-daily dopamine agonists in levodopa-treated Parkinson's disease patients is related to first dopamine replacement therapy</td>
<td>D. Santos-García, M. Prieto-Formoso, R. de la Fuente-Fernández (Ferrol, Spain)</td>
</tr>
<tr>
<td>Human microdialysis during acute high frequency stimulation of internus globus pallidus increases dopamine release and improves parkinsonian symptoms</td>
<td>R.R.C. Martinez, M.C. Carvalho, M.L. Brandão, M.J. Teixeira, J. Navarro, E.T. Fonoff (São Paulo, Brazil)</td>
</tr>
<tr>
<td>L-745,870 reduces L-DOPA-induced dyskinesia in the MPTP-lesioned primate at doses at which it is a selective antagonist at D4 dopamine receptors</td>
<td>P. Huot, T.H. Johnston, J.B. Koprich, S.H. Fox, J.M. Brotchie (Toronto, ON, Canada)</td>
</tr>
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</table>
Guided Poster Tours—Wednesday, June 20

Guided Poster Tour 9 - Genetics

Liffey Hall 1, Level 1
12:00 - 13:30
Wednesday, June 20, 2012
Tour Leaders:
Thomas Gasser, Tübingen, Germany
Matthew Farrer, Vancouver, BC, Canada

1402 CAG analysis, haplotypes, unstable repeats, recombination, pedigrees, gene dosage, genotype-phenotype relationship and genetics polymorphisms in the SCA2 (ATXN2) locus

1407 PRRT2 mutations are a major cause of paroxysmal kinesigenic dyskinesia in the European population

1398 High COMT activity is associated with earlier age at onset in PD

1417 Is the brain-derived neurotrophic factor (BDNF) Val66Met genetic polymorphism associated with impulsive-compulsive behaviours in Parkinson’s disease?

1425 First genome-wide association study in multiple system atrophy
A. Sailer, on behalf of the MSA GWAS Consortium (London, United Kingdom)

1422 PINK1-dependent mitophagy in dopaminergic neurons does not require LC3 conversion
A. Rakovic, K. Shurkewitsch, P. Seibler, D. Kainc, C. Klein (Lübeck, Germany)

1377 A clinicopathological study of parkin-linked parkinsonism – A study of 5 cases and comparison with Parkinson’s disease

1418 Contiguous gene deletions involving the SGCE gene: A clinical description
K.J. Peall, A.J. Waite, M.A. Kurian, M. Smith, H. Pall, T. Nestor, M.D. King, D.J. Blake, M.J. Owen (Cardiff, United Kingdom)

1363 Prrt2 gene mutations: From paroxysmal dyskinesia to episodic ataxia and hemiplegic migraine

1360 Alpha-synuclein H50Q, a novel pathogenic mutation for Parkinson’s disease

Guided Poster Tour 10 - Parkinson’s disease: Phenomenology

Liffey Hall 2, Level 1
12:00 - 13:30
Wednesday, June 20, 2012
Tour Leaders:
Stanley Fahn, New York, NY, USA
Joseph Jankovic, Houston, TX, USA

1586 Abnormalities of voice quality in the course of disease progression in Parkinson’s disease
W. Grönnheit, U. Schlegiel, S. Skodda (Bochum, Germany)

1570 An observational study of the impact of early versus delayed treatment on quality of life in Parkinson’s disease
D.J.M. McGhee, R. Caslake, C.E. Harris, C.E. Counsell (Aberdeen, United Kingdom)

1551 Asymmetry of gait in parkinsonian patients and its role in the development of freezing
G. Frazzitta, G. Pezzoli, G. Bertotti, G. Riboldazzi, R. Rosvescala, R. Maestri (Montesano, Italy)

1580 Baseline findings and Parkinson’s disease prognosis
A.H. Rajput, M.L. Rajput, A.H. Rajput (Saskatoon, SK, Canada)

1533 Progressive cortical degeneration in Parkinson’s disease
D. Benninger, J. Dukart, J. von Meyenburg, S. Thees, C. Bassetti, D. Waldvogel, S. Kollias, K. Iseki, B. Draganski (Lausanne, Switzerland)

1568 Unexplained lower limb pain syndrome in Parkinson’s disease: A variant of central pain
A. Martin, S. Robinson, M. Parry, A.H.V. Schapira, A. Rizos, C. Clough, K. Ray Chaudhuri (London, United Kingdom)

1596 The CamPaIGN study of incident Parkinson’s disease: Natural history over the first 10 years
C.H. Williams-Gray, S.L. Mason, J.R. Evans, T. Foltynie, R.A. Barker (Cambridge, United Kingdom)

1588 Cognitive correlates of freezing phenomenon in Parkinson’s disease
E. Stefanova, M. Jecmenica Lukic, F. Agosta, V. Spica, M. Filippi, V. Kostic (Belgrade, Serbia)

1565 Patterns of daily ambulatory activity are different in early Parkinson’s disease compared with controls
S. Lord, A. Godfrey, B. Gaina, D. Burn, L. Rochester (Newcastle upon Tyne, United Kingdom)

1543 Freezing of gait in Parkinson’s disease under virtual reality conditions studied with a novel treadmill system: A pilot trial
GUIDED POSTER TOUR 11 - Huntington’s disease

Wednesday, June 20, 2012
12:00 - 13:30
Wicklow Hall 1, Level 2

Tour Leaders:
M. Flint Beal, New York, NY, USA
John Hardy, London, United Kingdom

191 Frontal subcortical dysfunction underlying the applause sign: A study in Huntington’s disease subjects
S. Nageshwaran, Y. Bordelon, S. Perlman (London, United Kingdom)

199 Molecular analysis of Huntington’s disease in a Cuban population

168 A proposal for a physiotherapy programme to improve gait, balance and functional independence in Huntington’s disease
T. Capato, M. Haddad, E.R. Barbosa (Sao Paulo, Brazil)

200 Antisense oligonucleotides as molecular tools to silence prolonged (CAG)n tracts in Huntington’s disease

180 Bilateral globus pallidus deep brain stimulation for treatment of Huntington’s disease: Long term outcome of chorea
V. Gonzalez, L. Cif, B. Biolsi, M. Zanca, E. Sanrey, A.M. Moura, T. Roujeau, S. James, P. Coubes (Montpellier, France)

185 Baseline characteristics of the PREQUEL cohort: An interventional trial in pre-manifest Huntington’s disease
A. Killoran, K.M. Biglan, E. Julian-Barcos, N. Yoritomo, C.A. Ross (Rochester, NY, USA)

195 Concomitant use of antidepressants and neuroleptics with tetrabenazine in treatment of Huntington’s disease
V. Shen, K. Clarence-Smith, C. Hunter, J. Jankovic (Deerfield, IL, USA)

197 Long-term safety and efficacy of tetrabenazine in the treatment of chorea associated with Huntington’s disease
V. Shen, K. Clarence-Smith, C. Hunter, J. Jankovic (Deerfield, IL, USA)

181 Cognitive decline in Huntington’s disease is associated with CAG repeat length

182 Neuropathology of McLeod neuroacanthocytosis syndrome

GUIDED POSTER TOUR 12 - Parkinson’s disease: Behavioral disorders

Wednesday, June 20, 2012
12:00 - 13:30
Wicklow Hall 2, Level 2

Tour Leaders:
Daniel Weintraub, Ardmore, PA, USA
K. Ray Chaudhuri, London, United Kingdom

832 The neural correlates of visual misperceptions in Parkinson’s disease: Disorder of attentional networks
J.M. Shine, G.M. Halliday, S.J. Bolitho, S.L. Naismith, S.J.G. Lewis (Sydney, Australia)

799 Creative thinking in patients with Parkinson’s disease and healthy subjects: The artistic profession makes the difference?
M. Canesi, M.L. Rusconi, E. Reali, F. Morani, R. Cilia, G. Pezzoli (Milan, Italy)

806 Decision-making, impulsivity and behavioural addictions: Do Parkinson’s patients jump to conclusions?

849 Towards the detection of the neural correlates of Parkinson’s disease sub-types using MRI
K. Rosenberg Katz, T. Herman, Y. Jacob, G. Nir, J.M. Hausdorff (Tel Aviv, Israel)

817 Rotigotine transdermal patch improved neuropsychiatric features (apathy, anhedonia, anxiety, and depression) and fatigue in patients with Parkinson’s disease: Post-hoc analysis of five double-blind placebo-controlled studies
R.A. Hauser, P.A. Nausieda, E. Surmann, K. Moran, P. Barone (Tampa, FL, USA)

865 Morphologic changes of dendritic spines of intratelencephalic-type neurons in the motor cortex of a rat model of levodopa-induced dyskinesia

828 Effects of bilateral subthalamic nucleus deep brain stimulation on impulse control and repetitive behavior disorders in Parkinson’s disease: Results from 89 patients

868 Suicide ideation and behaviors after deep brain stimulation for Parkinson’s disease: Results from a randomized, controlled trial
D. Weintraub, J. Duda, K. Carlson, P. Luo, O. Sagher, F. Weaver (Philadelphia, PA, USA)

841 Minor hallucinations are a frequent and even pre-motor symptom in early untreated Parkinson’s disease
J. Pagonabarraga, S. Martinez-Horta, R. Fernández de Bobadilla, C. Villa, R. Ribosa, C. Garcia, B. Pascual-Sedano, A. Gironell, J. Kuilsevsky (Barcelona, Spain)

831 Thinning of retina from nasal part associates with visual hallucinatory experience in patients with Parkinson’s disease with intact cognition
J.Y. Lee, T.W. Kim, H.J. Kim, B.S. Jeon (Seoul, Korea)
**GUIDED POSTER TOURS—THURSDAY, JUNE 21**

**GUIDED POSTER TOUR 13 - Dystonia**
Liffey Hall 1, Level 1
12:00 - 13:30
**Thursday, June 21, 2012**
Tour Leaders:
Cynthia Comella, Chicago, IL, USA
Susan Bressman, New York, NY, USA
Supported by an unrestricted educational grant from Medtronic.

1102 Clinical characteristics of dystonia in patients with Wilson’s disease: the frequency of extensor truncal dystonia
A.S. Shalash, T.Y. AbdelGhaffar, S.M. Elsayed (Cairo, Egypt)

1081 Neuropathology of primary cervical dystonia
C.N. Prudente, J. Xiao, C.A. Parde-Villamizar, M.S. LeDoux, H.A. Jinnah (Atlanta, GA, USA)

1029 Generation of a novel rodent model of DYT1 dystonia

1023 A rat knockin model of early onset DYT1 generalized dystonia displays abnormal hindlimb gait
C.T. Frenz, M. Singh, P. Shashidharan (New York, NY, USA)

1090 Tremor dominant cervical dystonia is likely to be familial: Clinical characteristics of a large cohort
I. Rubio Agustí, I. Pareé, M. Kojovic, M.J. Edwards, K.P. Bhatia (London, United Kingdom)

1044 Penetration of abnormal temporal discrimination thresholds in unaffected first-degree relatives of adult onset primary torsion dystonia patients
O. Kimmich, A. Molloy, D. Bradley, R. Whelan, S. O’Riordan, R.B. Reilly, S. Hutchinson, M. Hutchinson (Dublin, Ireland)

1121 Identification of the genetic cause in the Australian family with spasmodic dysphonia (DYT4)

1031 Cerebellar modulation of human associative plasticity
M. Hamada, N. Murase, A. Sadnicka, J.M. Galea, M.J. Edwards, J.C. Rothwell (London, United Kingdom)

1100 Myofibrillar disorganization characterizes myopathy of camptocormia in Parkinson’s disease
A. Wrede, N.G. Margraf, H.H. Goebel, G. Deuschl, W.J. Schulz-Schaeffner (Göttingen, Germany)

1036 Immunotherapy-responsive faciobrachial dystonic seizures (FBDS) associated with LGI1-antibodies: A differential diagnosis in movement disorder practice

**GUIDED POSTER TOUR 14 - Parkinsonisms (parkinson plus and secondary)**
Liffey Hall 2, Level 1
12:00 - 13:30
**Thursday, June 21, 2012**
Tour Leaders:
Maria Stamoulo, London, United Kingdom
Adam Boxer, San Francisco, CA, USA

1197 Abnormalities of voice quality in progressive supranuclear palsy (PSP)
S. Skodda, W. Grönheit, U. Schlegel (Bochum, Germany)

1214 Atypical parkinsonian syndromes and fracture risk – Are patients adequately managed?
A.J. Yarnall, G.W. Duncan, T.K. Khoo, D.J. Burn (Newcastle-upon-Tyne, United Kingdom)

1138 Pure parkinsonism in chorea-acanthocytosis: Postmortem evidence for a striato-pallidal process without involvement of the substantia nigra pars compacta
B.S. Connolly, L.N. Hazrati, A.E. Lang (Toronto, ON, Canada)

1166 Hypokinesia without decrement distinguishes progressive supranuclear palsy from Parkinson’s disease
H. Ling, L. Massey, A. Lees, P. Brown, B. Day (London, United Kingdom)

1193 Update on ephedrine induced parkinsonism with dystonia: Four year follow up

1201 Impaired primary motor cortex LTP/LTD-like plasticity in multiple system atrophy
A. Suppa, L. Marsili, F. Di Stasio, A. Latorre, A. Khandker Farvez, C. Colosimo, G. Fabbriani, A. Bernardelli (Rome, Italy)

1165 Clinicopathological study of progressive supranuclear palsy presenting with corticobasal syndrome
H. Ling, R. de Silva, R. Courtney, L. Massey, N. Bajaj, J. Lowe, J. Holton, A. Lees, T. Revesz (London, United Kingdom)

1186 Accuracy of the NINDS-SPSP and the NNIPPS diagnostic criteria for the clinical diagnosis of progressive supranuclear palsy

1160 Characterization of movement disorder phenomenology in genetically or pathologically proven frontotemporal lobar degeneration: A systematic review of the literature
B.B. Shah, M. Maselis, D. Harmic, D. Frisman, G. Kleiner-Fisman (Toronto, ON, Canada)

1200 Parkinsonism in hereditary diffuse leukoencephalopathy with axonal spheroids due to CSF1R gene mutation
GUIDED POSTER TOURS—THURSDAY, JUNE 21

GUIDED POSTER TOUR 15 - Tremor

Wicklow Hall 1, Level 2

12:00 - 13:30

Thursday, June 21, 2012

Tour Leaders:
Victor Fung, Westmead, Australia
Roger Elble, Springfield, IL, USA

1233 Modulation of orthostatic tremor during gait
C. Blahak, M.E. Wolf, H. Bätzner, H.H. Capelle, J.K. Krauss, M.G. Hennerici (Mannheim, Germany)

1243 Essential tremor and tremor associated with dystonia are two distinct clinical entities by tactile and proprioceptive temporal discrimination tests
A. Fasano, T. Bovi, A. Di Matteo, A. Fiaschi, F. Bove, M. Fiorio, A. Berardelli, M. Tinazzi (Verona, Italy)

1239 Long term history of orthostatic tremor: A review of 50 patients
F. Di Biasio, S.L. Pullman, J.C. Cortés, Q.P. Yu, C. Hess, S. Fahn (Rome, Italy)

1263 Tremor clusters in the VIM associated with essential tremor and Parkinson’s disease
D.J. Pedrosa, C. Reck, M. Maarouf, L. Wojtecki, A.M. Pauls, V. Sturm, A. Schnitzler, G.R. Fink, L. Timmermann (Cologne, Germany)

1266 Mild cognitive impairment in essential tremor
M. Petrova, M. Raycheva, Y. Zhelev, O. Grigorova, L. Traykov (Sofia, Bulgaria)

Survey of cognitive screening in Parkinson’s disease across UK centres
S. Hanumantha Reddy, B. Elliott, D. MacMahon, Delegates at the 16th BGS Parkinson’s Academy (London, United Kingdom)

Identifying different pathological tremor characteristics with a smartphone
B. Carignan, J.F. Daneault, C.E. Codere, A.F. Sadikot, C. Duval (Terrebonne, QC, Canada)

Clinical features of parkinsonism with tremor associated with scans without evidence of dopaminergic deficit (SWEDDs)
A. Sacko, V. Moullart, C. Duru, P.E. Merie, O. Godefroy, P. Kryskowiak (Bobigny, France)

Corticomuscular coherence in asymmetric first degree relatives of patients with essential tremor
J. Raethjen, A. Kostka, M. Muthuraman, M. Nahrwohld, D. Lorenz, G. Deuschl (Kiel, Germany)

Diagnosis of psychogenic tremor using a smartphone

GUIDED POSTER TOUR 16 - Surgical therapy of movement disorders other than Parkinson’s disease

Wicklow Hall 2, Level 2

12:00 - 13:30

Thursday, June 21, 2012

Tour Leaders:
Paul Krack, Grenoble, France
Antonio Stratford, Toronto, ON, Canada

Supported by an unrestricted educational grant from Medtronic.

959 Factors predicting improvement in essential head tremor following deep brain stimulation
M. Moscovitch, T. Morishita, C. Favilla, Z. Peng, K. Foote, M. Okun (Gainesville, FL, USA)

946 Evaluation of the therapeutic profit of nucleus accumbens core on the impulsivity/compulsivity balance in rats
S. Ansquer, A. Belin-Rauscent, E. Dugast, M. Francheteau, J.L. Houeto, D. Belin (Poitiers, France)

958 Cervical dystonia improves with high frequency but not with low frequency pallidal stimulation
E. Moro, B.M. Pascual-Sedano, B. Shah, Y.Y. Poon, M. Fallis, A.M. Lozano, M. Hodaie, P. Hagen, C. Brücke, G.H. Schneider, A. Kühn (Toronto, ON, Canada)

981 Electrophysiology of the anteromedial GPI in Tourette syndrome: A case study
S.E. Zauber, S. Ahn, R.M. Worth, L. Rubchinsky (Indianapolis, IN, USA)

962 Prospective assessment of low- versus high-frequency bilateral subthalamic nucleus (STN) deep brain stimulation (DBS) in patients with primary dystonia

949 Treatment of tremor in multiple sclerosis by thalamic deep brain stimulation
H. Hofschulte, S. Paschen, J. Raethjen, H.M. Mehdorn, J. Volkmann, G. Deuschl (Kiel, Germany)

957 Successful GPI-Deep brain stimulation in Tourette syndrome (GTS) – Much more than improvement of tics
J.H. Mehrkens, K. Boetz, B. Leitner, B. Feddersen, N. Müller, S. Dehning (Munich, Germany)

980 Effect of bilateral pallidal deep brain stimulation in primary dystonia
F. Yokochi, M. Taniguchi, R. Okiyama, S. Kumada (Tokyo, Japan)

969 Long-term follow-up in patients with deep brain stimulation for cervical dystonia

951 A double-blind, randomized, controlled, crossover trial of bilateral deep brain stimulation to the globus pallidus internus in severe Tourette syndrome
ABSTRACTS BY TOPIC

Epidemiology

1  The Parkinson’s disease in Africa collaboration project in Ghana: The story so far
A. Akpalu, M. Cham, R. Cilia, G. Pezzoli (Accra, Ghana)

2  Association of cumulative some heavy metal exposure with Parkinson’s disease
U. Dashdorj, B. Tserensodnom, B. Bold, U. Chimedregzen, F. Komatsu, Y. Kagawa (Ulaanbaatar, Mongolia)

3  Prevalence of neurodegenerative parkinsonism in the isolated population of South-Eastern Moravia, Czech Republic
K. Farníková, P. Kanovsky, L. Mikulicova, P. Jugas, J. Ovecka, M. Kaiserova (Olomouc, Czech Republic)

4  Frequency and pattern of movement disorders in a Nigerian rural tertiary health care institution: A preliminary study
M.B. Fawale (Ile Ife, Nigeria)

5  Pan-American consortium on multiple system atrophy

6  The prognosis of psychogenic (functional) motor symptoms: A systematic review
J.M. Gelauff, A.J. Carson, J. Stone (Amsterdam, Netherlands)

7  Plasma urate level associates the odds ration of Parkinson’s disease (PD): Out-patient-clinic analysis in the neurology department
H. Iwaki, Y. Tamaki, T. Tsuji, N. Nishikawa, M. Nagai, M. Nomoto (Ehime, Japan)

8  The incidence of Parkinson’s disease in North East England
T.K. Kho, G. Duncan, A.J. Yarnall, D.J. Brooks, R.A. Barker, D.J. Burn (Newcastle upon Tyne, United Kingdom)

9  Epidemiology and age at onset analysis of Parkinson’s disease in the eastern region of Cuba (Holguín)
L. Laguna-Salva, J.A. Valdevila-Figueira, J.M. Laffita-Mesa (Holguín, Cuba)

10  The progression markers in the premotor phase (PMPP) of Parkinson’s disease study
I. Liebelt-Scarfone, K. Mueller, C. Bormann, K. Gauss, J. Streffer, D. Berg (Tuebingen, Germany)

11  Prevalence and progression of mild parkinsonism signs in elderly men and women (Bruneck-study cohort): A population-based study
P. Mahlknecht, H. Stockner, S. Kiechl, J. Willeit, A. Gasperi, G. Rungger, W. Poewe, K. Seppi (Innsbruck, Austria)

12  Tracking Parkinson’s: The PRoBaND study (Parkinson’s repository of biosamples and networked datasets)
N. Malek, N. Bajaj, R. Barker, Y. Ben-Shlomo, D. Burn, T. Foltynie, H. Morris, N. Williams, N. Wood, D. Grosslet (Glasgow, United Kingdom)

13  Frequency and clinical characteristics of movement disorders at the neurology clinic of the LAUTECH teaching hospital Osogbo Nigeria
A.F. Mustapha (Osogbo, Nigeria)

14  Risk factors and early non-motor features for Parkinson’s disease: A systematic review and meta-analysis

15  Peripheral biomarkers of inflammation and Parkinson’s disease in women
E.J. O’Reilly, H. Chen, M. Schwarzschild, A. Ascherio (Boston, MA, USA)

16  Spectrum of movement disorders at the premier Lagos Movement Disorders Clinic in Nigeria: First year’s experience
N.U. Okubadejo, O.O. Ojo, O.O. Oshinaike, I.A. Bankole, C.B. Aiyejusunle (Lagos, Nigeria)

17  Physical precipitating factors in functional movement disorders

18  Baseline characteristics for the first Mexican multicentric cohort study: The Parkinson’s disease national registry
M. Rodriguez-Violante, C. Zurüga, M. López, I. Estrada-Bellaran, R. Mathieu, C. Ramirez, A. Cervantes-Arria (Mexico City, Mexico)

19  Head injury and risk of Parkinson’s disease: A systematic review and meta-analysis
A. Samii, M. Eltmann, F. Aminzadeh, S. Jafari (Seattle, WA, USA)

20  Trends in initiation of antiparkinsonian drug treatment among patients with Parkinson’s disease in the UK between 1997 and 2010: A population-based analysis
R. Schade, M. Sturkenboom (Rotterdam, Netherlands)

21  Incidence and prevalence of primary dystonia in Buenos Aires

22  Clinical and epidemiological features of hemifacial spasm in Buenos Aires, Argentina
J.P. Tartari, C.V. Stefani, D.H. Giunta, E. Cristiano, D.J. Bauso (Buenos Aires, Aruba)

23  Prevalence of Parkinson’s disease in Ukraine
Y.O. Trufanov (Lugansk, Ukraine)

24  Establishing a population-based cohort to investigate Parkinson’s disease
S. Tunc, J. Graf, A. Schmidt, V. Tadic, S. Wolff, A. Lorwin, E.J. Vollstedt, J. Hampf, L. Piskol, C. Klein, M. Kasten, J. Hagenah (Lübeck, Germany)

25  Stimulant use associated with risk of Parkinson’s disease
S.K. Van Den Eeden, K.S. Albers, C.M. Tanner, A.D. Leimampion, C.P. Quezenberry, L.M. Nelson (Oakland, CA, USA)

26  Withdrawn by Author

27  Prevalence of restless legs syndrome in Ankara, Turkey
A. Oto, G. Aykan, N. Yilmaz, M.C. Akbostanci (Ankara, Turkey)

28  Prevalence of Parkinson’s disease and agricultural employment in Austria
H. Zach, H. Celin, G. Fülöp, W. Pirker, E. Auff, F. Zamprich (Vienna, Austria)

Parkinson’s disease: Cognition

29  Cognitive dysfunction in early Parkinson’s disease: Neuropsychological analysis
C. Adams, R. Fulbright, M. Thomas (Bedford, TX, USA)

30  Diurnal sleepiness and executive dysfunctions: A virtual and neuropsychological study in Parkinson’s disease and sleep apnea syndrome
G. Albani, L. Priano, P. Cipresso, S. Raspelli, R. Pignatti, P. Ferronato, A. Luzzi, G. Riva, A. Mauro (Piancavallo, Italy)

31  Graded dual task benefits of cognitive tasks on cycling in Parkinson’s disease: Effects of kinesia paradoxa
L.J.P. Altman, E. Stegemoller, A.A. Hazamy, J.P. Wilson, D. Bowers, C.M. Sapienza, M.S. Okun, C.J. Hass (Gainesville, FL, USA)
ABSTRACTS BY TOPIC

32 Screening for cognitive impairment in Parkinson’s disease and age-matched controls using MMSE and MOCA: Which visuospatial tests are most sensitive?
J.E. Alty, S.L. Smith, S. Jamieson (Leeds, United Kingdom)

33 Gait pattern and cognition in Parkinson’s disease
M. Amboni, P. Barone, L. Luppariello, I. Lista, R. Tranflaglia, A. Lavaroni, A. Fasano, M. Picillo, G. Sorrentino (Naples, Italy)

34 Changes of cognitive function in Parkinson’s disease following bilateral subthalamic nucleus stimulation: Evaluation by test battery including repeatable battery for the assessment of neuropsychological status
T. Asahi, N. Nakamichi, H. Hamada, A. Takaiwa, M. Koh, M. Kigawa, N. Hayashi, N. Kuwayama, N. Dougu, S. Takashima, S. Endo (Toyama, Japan)

35 Effect on cognitive functions of clinical autonomic dysfunction in Parkinson’s disease
D. Aygun, K. Akpinar, S.K. Yen, M.K. Onar (Samsun, Turkey)

36 DEMPARK: Parkinson’s disease and dementia

37 Comparison of The Movement Disorder Society criteria for Parkinson’s disease dementia with routine clinical neuropsychological testing
B.R. Barton, B. Bernard, G.T. Stebbins, J. Goldman, B. Dubois, C.G. Goetz (Chicago, IL, USA)

38 Gait training associated with executive functions tasks in subjects with Parkinson’s disease: Improvement of performance and effects in motor learning
C. Bedeschi Ferrari, L. Rodrigues, D. Bauer, A. Manfredi, M.E. Pimentel Fiemonte (Barueri, Brazil)

39 Cognitive characterization of mild cognitive impairment subtypes in Parkinson’s disease
R. Biundo, S. Facchini, P. Formento-Dojot, M. Pilleri, A. Antonini (Venice, Italy)

40 Impaired judgment of harmful intent in Parkinson’s disease: Examining the role of dopamine
E. Gleichgerrcht, G. Gómez Arévalo, S. García, G. Mizraji, F. Manes, O. Gershankin, A. Chade (Buenos Aires, Argentina)

41 Motor impulsivity in Parkinson’s disease subtypes: Postural instability with gait difficulty versus tremor predominant
D.O. Claassen, S.A. Wylie (Nashville, TN, USA)

42 β-amyloid and τ burden in the midbrain across the Lewy body spectrum
Y. Compta, M.J. Marti, E. Gelpi (Barcelona, Spain)

43 Is the PFAQ a valid instrument for defining disability due to cognitive impairment in Parkinson’s disease?
C.P. Souza, G. Nascimento, G.G.R. Rodrigues, D. Sabino, V. Tumas, J.F. de Oliveira (Ribeirão Preto, Brazil)

44 Elevated homocysteine levels predict cognitive dysfunction in an incident cohort of non-demented Parkinson’s disease patients
G.W. Duncan, T.K. Khoo, A.J. Yarnall, J.T. O’Brien, D.J. Brooks, R.A. Barker, D.J. Burn (Newcastle upon Tyne, United Kingdom)

45 Mechanisms of psychomotor slowing in Parkinson’s disease
C. Duru, T. Lelard, M. Rousseau, Y. Yerro, O. Godefroy, P. Krystkowiak (Amiens, France)

46 Neuropsychological profile in LRRK2-R1441G associated Parkinson’s disease
A. Estanga, J. Ruiz-Martinez, A. Gorostidi, M.C. Rodriguez-Oroz, J.F. Marti-Masso (San Sebastian, Spain)

47 Neuropsychological performance in asymptomatic LRRK2 mutation carriers (R1441G and G2019S)
A. Estanga, A. Bergareche, J. Ruiz-Martinez, A. Gorostidi, M.C. Rodriguez-Oroz, J.F. Marti-Masso (San Sebastian, Spain)

48 The influence of reward and punishment on probability learning in patients with Parkinson’s disease as compared to healthy controls
M. Fritz, D. Weiss, R. Krueger, A. Lindner, T. Waechter (Tuebingen, Germany)

49 Evolution of cognitive state in advanced Parkinson’s disease
C. Gasca, A. Estanga, I. Lamet, P. Clavero, J. Obeso, M.C. Rodriguez-Oroz (Pamplona, Spain)

50 Baseline-dependent effects of levodopa on cognitive performance and rCBF in Parkinson’s disease: A PET study
I.K. Goerendt, A.D. Lawrence, M.A. Mehta, D.J. Brooks (Hamburg, Germany)

51 Sleep quality indices and cognitive impairment in Parkinson’s disease
R. Ghode, G.T. Stebbins, B. Bernard, B. Ouyang, C. Comella, J.G. Goldman (Chicago, IL, USA)

52 The neural basis of coordination in social decision-making: Evidence from Lewy body spectrum disorder

53 Long term follow-up of executive functions after brain stimulation (DBS) in Parkinson’s disease (PD) patients: Preliminary results

54 Survey of cognitive screening in Parkinson’s disease across UK centres
S. Hanumantasha Reddy, B. Elliott, D. MacMahon, Delegates at the 16th BGS Parkinson’s Academy (London, United Kingdom)

55 A substantial investigation on psychiatric symptoms in patients with Parkinson’s disease (PD) from our own out-patients survey
K. Hasegawa, T. Yokoyama, E. Horiucli, E. Kaneko, A. Kumon, N. Kawashima (Kanagawa, Japan)

56 Dual task dissociations in cognitive performance in Parkinson’s disease
A.A. Hazamy, L.J.P. Altmann, J.P. Wilson, E. Stegemöller, D. Bowers, C.M. Sapienza, M.S. Okun, C.J. Hass (Gainesville, FL, USA)

57 Do the sub-types of Parkinson’s disease patients respond differently to challenging walking conditions?
T. Hermann, A. Weiss, M. Brozgol, S. Shema, N. Giladi, J. Hausdorff (Tel Aviv, Israel)

58 Naming dynamic actions in Parkinson’s disease
E. Herrera, E. Poliakoff, J. Holler, K. McDonald, F. Cuetos (Oviedo, Spain)

59 Subcortical white matter hyperintensities within the cholinergic pathways of Parkinson’s disease patients according to cognitive status
J. Shin, S. Choi, J.Y. Hong, J.E. Lee, Y.H. Sohn, P.H. Lee (Seoul, Korea)

60 Neurocognitive and atrophic patterns in Parkinson’s disease based on subjective memory complaints
J.Y. Hong, J.E. Lee, Y.H. Sohn, P.H. Lee (Seoul, Korea)
Abstracts By Topic

61 Quantitative assessment of clock drawing test combined with Mininal Status Exam in screening of cognitive impairment in PD

62 Clinical and neuropsychological profile of patients with Parkinson’s disease
D. Joshi, A. Zafar (Varanasi, India)

63 Longitudinal course of cognition in elderly women with Parkinson’s disease
G.A. Kang, L. Lui, H. Fink, B. Miller, K. Yaffe (San Francisco, CA, USA)

64 Brain derived neurotrophic factor G196A polymorphism and cognitive impairment in Parkinson’s disease
C. Karakasis, K. Kallidindi, G. Kourtsey, D. Milioni, L. Fidani, Z. Katsarou, S. Bostanjopoulo (Thessaloniki, Greece)

65 Pill questionnaire for detecting cognitive dysfunction and its impact on daily living in Parkinson’s disease
J.S. Kim, J.H. Kang, B.S. Jeon (Cheongju-si, Korea)

66 The relationship between dysphagia and cognitive impairment including frontal lobe function in Parkinson’s disease
J.Y. Kim, H.Y. Shin, J.E. Shin, H.R. Na (Seongnam-si, Korea)

67 Cognitive impairment in Parkinson’s disease: A pilot study with miniminal Parkinson’s, the clock drawing test and the generation of words by category and code
A.P. Kleinert, E. Rodriguez, L. Romero, H. Juarez (Mexico City, Mexico)

68 COMTVal158Met genotype and executive function in Parkinson’s disease
G. Kourtsey, L. Fidani, Z. Katsarou, K. Kallidindi, T. Katopodi, V. Tsipropoulo, S. Bostanjopoulo (Thessaloniki, Greece)

69 The pattern of cortical atrophy in Parkinson’s disease with mild cognitive impairment according to the timing of cognitive dysfunction

70 Changes on the mini-mental status examination and Montreal cognitive assessment over time in Parkinson’s disease
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420 Functional improvement in patients with Parkinson’s disease after balance and cognitive training in real or virtual environments
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421 Caffeine for treatment of Parkinson’s disease – A randomized controlled trial

422 Long-term exercise improves and maintains physical function in people with Parkinson’s disease

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425 Long-term progressive exercise improves bradykinesia and muscle weakness in Parkinson’s disease
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426 The addition of aerobic or resistance training to sensory attention training in Parkinson’s disease
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427 Ultrasonography is useful for injecting lidocaine into target muscles inducing camptocormia in Parkinson’s disease
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430 Dopamine agonists and dyskinesia in advanced Parkinson’s disease: A network meta-analysis of rotigotine, pramipexole and ropinirole as adjunct therapy to levodopa
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431 Therapeutic repetitive transcranial magnetic stimulation over the supplementary motor area in Parkinson’s disease
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432 Does disease severity influence the efficacy of exercise in Parkinson’s disease?
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433 Strength training outcomes for airway protection in PD
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435 Pico-tesla external magnetic stimulation does not improve motor function in Parkinson’s disease
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440 The use of a multiple cueing device as an adjunct to conventional physiotherapy to improve gait and quality of life in patients with Parkinson’s disease – A pilot study
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441 Toxins and Parkinson’s disease
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442 Examination of mean gait acceleration by portable gait analysis device to improve gait and quality of life in Parkinson’s disease
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447  Development and delivery of a multidisciplinary rehabilitation intervention for the SPIRIT study. H. Gage, K. Bryan, S. Ting, P. Williams, J. Kaye, B. Castleton, P. Trend, D. Wade (Guildford, United Kingdom)

448  Comparison between the rate of Parkinson’s disease progression and patient gender. Y.G. Trufanov, V.I. Golovchenko (Lugansk, Ukraine)

449  Interdependences between the presence of autonomic dysfunction and severity of disease according to the modified Hoehn and Yahr staging and the Schwab and England Activities of Daily Living Scale in patients with Parkinson’s disease. Y.G. Trufanov (Lugansk, Ukraine)

450  A comparative study on safety and tolerability of rasagiline versus pramipexole in early Parkinson’s disease (PD): The ACTOR study. F. Viallet, S. Pitel, S. Lancrenon, O. Blin (Aix-en-Provence, France)

451  Olfaction mix-ups are characteristic for Parkinson’s disease: The sniffPD study. D. Volc, A. Wuschitz, N. Halasek, W. Schimetta (Vienna, Austria)

452  Plasma homocysteine and its clinical significance in Parkinson’s disease. M. Wang, Y. Li, C. Mu (Shijiazhuang city, China)

453  Combined interleaving stimulation of STN and SNr for refractory gait disturbances: Preliminary findings of a randomized controlled trial. D. Weiss, M. Walach, C. Meisner, M. Fritz, A. Gharabaghi, C. Plewnia, S. Breit, B. Bender, T. Wächter, R. Krüger (Tübingen, Germany)

454  Clinical features of the c.1858G>A mutation in VPS35-associated parkinsonism. A. Weissbach, K.R. Kumar, M. Heldmann, M. Kasten, S. Tunc, C.M. Sue, P. Vieregge, T.F. Münthe, K. Lohmann, C. Klein, J. Hagenah (Lübeck, Germany)

455  Assessing the benefit and safety of administering intermittent GDNF infusions in PD. S.S. Gill, E. White, N. Barua, A. Bienemann, N. Patel, M. Luz, L. Barclay, E. Mohr, L. Rooney, E. Couthard, A. Lawrence, S. Daniels, A.L. Whone (Bristol, United Kingdom)

456  Lack of pharmacokinetic interaction between the novel mGluR5 antagonist AFQ056 and levodopa/carbidopa in healthy volunteers. A. Chakraborty, M. Ufer, P. Bhad, M. Vandemeulebroecke, B. Gomez-Mancilla, D. Bell, S. Winter, R. Woessner (Basel, Switzerland)


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460  Reduced bioavailability of soluble alpha-synuclein due to aggregation leads to toxicity. N.M. Kanaan, N.E. Kuhn, C.S. Sortwell, C. Jiang, F.P. Manfredsson (Grand Rapids, MI, USA)


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466  Unilateral STN DBS improves depression in patients with moderate to advanced Parkinson’s disease. A.W. Amara, H.C. Walker, G. Cutter, S. Guthrie, R.L. Watts, D.G. Standaert (Birmingham, AL, USA)


468  Combining DBS in internal and external pallidum (Gpi & Gpe) to optimise “peak dose dyskinesia” and “off symptoms” in a small series of patients with Parkinson’s disease (PD). A. Angeli, I.A. Olmos, Z. Kefalopoulou, L. Zrinzo, M. Hariz, P. Limousin, T. Foltynie (London, United Kingdom)

469  Role of microelectrode recording in STN DBS electrode implantation. P. Ankathi, R.M. Kandadai, A. Jabeen, M.A. Kannikannan, R. Borgohain (Hyderabad, India)

470  Deep brain stimulation and decision making in apathetic patients: A PET study. F. Antonelli, A.P. Strafella, Y.Y. Poon, A.M. Lozano, M. Hodaje, G. Pellecchia, F. Valzania, J.H. Ko, A. Lang, S. Houle, E. Moro (Toronto, ON, Canada)

471  DBS stimulation frequencies in PD patients with gait and speech problems. D. Apetauera, S.A. Scala, J.W. Zani (Burlington, MA, USA)

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475 Analysis of stereotactic accuracy in patients undergoing deep brain stimulation using Nexframe and Leksell frame
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476 Quantitative evaluation of the effects of bilateral subthalamic deep brain stimulation (DBS) on balance in Parkinson’s disease (PD)
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477 Effects of STN DBS on reaching kinematics in Parkinson’s disease
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478 DBS electrode Impedance varies over time in humans
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479 Gender differences in advanced Parkinson’s disease treated with subthalamic stimulation
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480 Convergence insufficiency responsive to bilateral subthalamic nucleus deep brain stimulation in Parkinson’s disease
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481 Acute psychosis following insertion of deep brain stimulator in a patient with Parkinson’s disease
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483 Effect of deep brain stimulation of the subthalamic nucleus on balance in Parkinson’s disease
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484 Saccadic eye movement abnormalities in Parkinson’s disease treated by levodopa and deep brain stimulation
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485 Current controlled stimulation versus voltage controlled stimulation in patients with bilateral subthalamic nucleus deep brain stimulation for advanced Parkinson’s disease

486 Recognition of facial emotions and limbic circuits are not affected by pallidal stimulation in Parkinson’s disease: A clinical and PET study
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488 Expanding the spectrum of the twiddler syndrome: Twiddler by proxy and shoulder raises twiddling
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489 Deep brain stimulation of the subthalamic nucleus but not the internal globus pallidus is neuroprotective in a rat model of Parkinson’s disease
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490 Low-frequency stimulation of the pedunculo-pontine nuclei can improve gait in Parkinsonian syndromes
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491 A functional mechanism for deep brain stimulation in Parkinson’s disease: The slow axon blockade hypothesis
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492 Improving deep brain stimulation case efficiency by application of Virginia Mason Production System (VMPS)
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493 Bilateral STN DBS is effective in reducing rapid-cycling manic episodes and in-patient psychiatric admissions in a patient with Parkinson’s disease and bipolar disorder type I
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494 Apathy and mania induced by subthalamic nucleus stimulation
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495 Effects of dopaminergic and subthalamic stimulation on musical performance parameters: Dissociating timing, intonation, articulation and emotionality
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496 The decision making process leading to deep brain stimulation (DBS) for Parkinson’s disease (PD) – The patients’ perspective
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497 Time to revive pallidotomy for Parkinson’s disease?
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498 Visuo-motor function in Parkinson’s disease is not improved by subthalamic nucleus deep brain neurostimulation
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499 Subthalamic nucleus deep brain stimulation in Parkinson’s disease: Postmortem analysis in two patients
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500 Can a patient with complex mixed dementia be approved for deep brain stimulation (DBS)?
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501 Effects of deep brain stimulation of caudal zona incerta and subthalamic nucleus on pitch level in speech of patients with Parkinson’s disease
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507 Recommendations for standardized postmortem autopsy procedures in patients treated with deep brain stimulation
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508 Complex Parkinson’s tremor requiring combined ViM and STN stimulation (DBS)
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509 Differential STN and GPi deep brain stimulation effects on oculomotor function in patients with Parkinson’s disease

510 The effect of STN-DBS’s laterality on voice and perception of speech
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515 Randomized multicenter trial comparing bilateral subthalamic nucleus DBS and bilateral globus pallidus internus DBS for advanced Parkinson’s disease (NSTAPS)
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516 Racial disparities in access to deep brain stimulation
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517 Can cardiac 123I-MIBG scintigraphy predict clinical outcomes of the subthalamic nucleus deep brain stimulation in Parkinson’s disease?
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518 Case report: Deep brain stimulation in a patient with coexistent Parkinson’s disease and corticobasal degeneration
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519 Effect of subthalamic deep brain stimulation (DBS) on pain in Parkinson’s disease
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520 Sustained response to deep brain stimulation in LRRK2 parkinsonism with the Y169C mutation
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521 Is age a predictor for length of hospital stay in deep brain stimulation?
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522 The dominant subthalamic nucleus: A gait analysis study
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525 Long-term influence of deep brain stimulation of the subthalamic nucleus on motor and nonmotor disturbances during Parkinson’s disease (PD)
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526 Long term functional and morphological neuroprotection via deep brain stimulation of the subthalamic nucleus in rats

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528 Simple solution for cerebrospinal fluid loss and pneumocephalus in semi-supine-positioned multitrack deep brain stimulation surgery: Polyethylene glycol hydrogel dural sealant capping

529 The MDS-UPDRS tracks motor and non-motor improvement due to subthalamic nucleus deep brain stimulation in Parkinson’s disease
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530 Improvement of a developmental stuttering following deep brain stimulation for Parkinson’s disease
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531 Speech changes in 54 consecutive PD patients following one year bilateral STN-DBS and predictive clinical and surgical factors

532 Stimulation of caudal zona incerta in Parkinson’s disease: Effects on jaw movement during speech
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534  Evaluation of electrode design on activation volumes produced during deep brain stimulation
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536  Parkinson’s Study Group Neurosurgical Working Group (PSG-NSWG) deep brain stimulation (DBS) non-motor symptoms (NMS) survey: Real-world preoperative practice patterns
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537  Morbidity and mortality of deep brain stimulation surgery patients aged 70: A single-center age review
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545  Health-related quality of life people with Parkinson’s disease living in rural settings
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546  Correlates of health-related quality of life (HRQL) in Parkinson’s disease (PD)

547  Measures of Parkinson’s disease disability that predict caregiver burden: National Parkinson Foundation (NPF) Quality Improvement Initiative
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548  Predictors of exercise habits in Parkinson’s disease
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549  Increase in quality of life with injection of abobotulinum toxin A(100U) in parotid glands in children with cerebral palsy and adults with brain injury: One year interim report
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550  Relationship of visual hallucinations in Parkinson’s disease to the duration of various factors
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551  A palliative care service for Parkinson’s disease: Patient characteristics and service interventions
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552  A multicenter Italian sleep study: Hypertension in peri and post menopausal women is strongly related to sleep quality, RLS and mood alteration

553  Speech therapy utilization and referral in Parkinson’s disease
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554  Mood disorder prevalence and consequences in an educated internet sample of people with Parkinson’s disease
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555  Collaborative care in community-based professional networks for Parkinson’s disease
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556  Patient-centered collaborative care for chronic patients in virtual health communities
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557  Irish set dance improves mobility, balance and quality of life in Parkinson’s disease
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558  Quality of life and attitude in Parkinson’s disease: A comparison between individuals with and without deep brain stimulation
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560  Evaluation of the thyrotropic axis in spinocerebellar ataxia type 2 Cuban patients. A preliminary case-control study

561  Relation between gait and cognition in normal pressure hydrocephalus and in old age subjects
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562  Symptomatic treatment effect with idebenone in very late-onset Friedrich ataxia
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563  In vivo dopamine transporter density in Machado-Joseph disease: Is cognitive and olfactory impairment mediated by striatal dopamine function?

564  Are Cuban ATXN2 large normal alleles prone to expand? Implications for the prenatal testing program
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565  Buccal cell micronucleus frequency is significantly increased in Cuban patients with spinocerebellar ataxia type 2

566  Clinical presentation and early evolution of spastic ataxia of Charlevoix-Saguenay (SCAS) in the French-Canadian population
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567  The Machado-Joseph disease associated mutant form of ataxin-3 promotes clearance of parkin through the mitophagy pathway
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569  Prospective analysis of falls in spinocerebellar ataxias

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575  Blepharospasm, foot dystonia and cerebellar ataxia associated with multiple autoantibodies
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578  Intra-familial phenotype variability in a Taiwanese family with spinocerebellar ataxia type 2
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580  A new mutation in anotamin 10 gene associated with isolated autosomal recessive cerebellar ataxia
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581  Exonic deletions of FXN cause early-onset Friedreich’s ataxia
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582  Electrophysiological characteristics of cranial nerves in sca2 patients: A follow-up study in 180 subjects

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585  Brain MRI study in multiple system atrophy cerebellar subtype (MSA-C) and spinocerebellar ataxia type 3 (SCA3)
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604 Cerebellar ataxia in adult-onset Sandhoff disease: A case report
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620 Myoclonic dystonia syndrome due to tyrosine hydroxylase deficiency
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623 Anti-glycine receptor antibody causing relapsing encephalitis with rigidity and myoclonus
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627 Mismatch negativity (MMN) in the nucleus subthalamicus in patients with Parkinson’s disease – Intracranial study
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647 Effects of dual-tasking on gait parameters in early Parkinson’s disease: Evidence for early cognitive training
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648 Square wave jerks during reflexive and voluntary saccade tasks in early Parkinson’s disease
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649 Effect of high-frequency repetitive transcranial magnetic stimulation (rTMS) applied on the primary motor cortex, on pain threshold in patients with Parkinson’s disease: A physiopathological study
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650 Bioelectric brain activity changes caused by Parkinson’s disease
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652 Evaluation of short-term effects of repetitive transcranial magnetic stimulation on paraclical aspects of speech in Parkinson’s disease
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653 Gait disturbance in PD: Assessing the contribution of cholinergergic dysfunction using short latency afferent inhibition
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655  Modulation of local field potential power of the subthalamic nucleus during incremental isometric force generation in patients with Parkinson’s disease E. Florin, H. Salimi Dafarsi, C. Reck, M.T. Barbe, K.A.M. Pauls, M. Maarouf, V. Sturm, G.R. Fink, L. Timmermann (Cologne, Germany)


657  Standardized handwriting provides quantitative measures to assess bradykinesia, tremor and micrographia in Parkinson’s disease E.J. Smits, A. Telenon, L. Cluitmans, M. van Gils, B.A. Conway, R.C. Zietsma, N.M. Mauritss (Groningen, Netherlands)


659  High incidence of small fiber neuropathy in patients with Parkinson’s disease: Electrophysiological and histopathological study H. Streitová, Š. Buršová, E. Minks, J. Bednarík, M. Bareš (Brno, Czech Republic)

660  Muscle activation signals during gait are more rhythmic than normal in Parkinson’s disease T.A. Thrasher, S. Fisher (Houston, TX, USA)

661  Oscillatory activity in the subthalamic nucleus in PD, freezing of gait and cognitive dysfunction J.B. Toledo, M. Alegre, J. López-Azcárate, J. Guridi, J. Iriarte, J. Obeso, J. Artieda, M.C. Rodríguez-Oroz (Pamplona, Spain)

662  Assessment of motor function by measuring the maximum pinching force in patients with Parkinson’s disease T. Touge, K. Kume, K. Ikeda, K. Deguchi, Y. Nakamura (Kagawa, Japan)

663  Different sub-thalamic nuclear local field potential oscillatory patterns between movement initiation and termination in Parkinson’s disease patients C.H. Tsai, Y.T. Hsu, H.Y. Lai, S.M. Chiu, M.K. Lu, C.C. Chen, H.C. Huang, Y.Y. Chen (Taiichung, Taiwan)

664  Compensatory activity in the extrastriate body area of Parkinson’s disease patients B.L. van Nuenen, R.C. Helmich, N. Buenen, B.P.C. van de Warrenburg, B.R. Bloem, I. Toni (Nijmegen, Netherlands)

665  Coupling of subthalamic nucleus activity and EMG in Parkinson’s disease R. Reese, C. Zahra, S. Brandt, F. Steigerwald, M. Pötter-Nerger, D. Falk, G. Deuschl, H.M. Mehdorn, J. Volkmann (Würzburg, Germany)


667  Saccade-related beta-band desynchronization in the subthalamic nucleus of Parkinson’s disease patients during successful antisaccades and error trials A. Yugeta, W.D. Hutchison, R. Chen (Toronto, ON, Canada)

668  Abnormal processing of the nociceptive input in Parkinson’s disease occurs in the central nervous system: Evidence from Nd-YAP laser evoked potentials S. Zambito Marsala, F. Morgante, A. Fornasier, F. Fabris, C. Lo Cascio, C. Marchini, G. Defazio, M. Tinazzi (Belluno, Italy)

669  Oscillatory activity patterns in the subthalamic nucleus in parkinsonian patients with L-dopa induced off-dyskinesia X. Li, P. Zhuang, M. Hallett, S. Guo, Y. Zhang, J. Li, Y. Li (Beijing, China)

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670  Chronic levodopa use negatively influences subjective but not objective sleep quality of Parkinson’s disease patients J.M. Antczak, M.J. Rakowicz, M. Derejko, M. Banach, J. Sienkiewicz, U. Zalewska, W. Jernajczyk (Warszawa, Poland)

671  Sleep problems in Korean Parkinson’s disease patients with PD sleep scale J.S. Baik, H.I. Ma (Seoul, Korea)

672  Sleep disturbances in Parkinson’s disease, progressive supranuclear palsy and controls: A clinical and polysomnographic study A. Batra, M. Gupta, G.A. Khwaja, D. Chowdhury, A. Dasgupta (New Delhi, India)


674  Effects of dopaminergic medications on objective and subjective sleep in Parkinson’s disease L.M. Chahtine, J. Daley, S. Horn, A. Colcher, H. Hurtig, C. Cantor, N. Bahodwala (Philadelphia, PA, USA)


676  Quantifying daytime sleepiness in Parkinson’s disease K. Kotschet, W. Johnson, R. Griffiths, M. Horne (Fitzroy, Australia)

677  Sleep related problems and excessive day-time sleepiness in patients with Parkinson’s disease D. Kulic, Obradovic, S. Medic, B. Lazic (Belgrade, Serbia)

678  Effect of carbidopa, entacapone and levodopa at bed time on sleep quality in Parkinson’s disease compared to levodopa and carbidopa-CR H.I. Ma, J.S. Baik, S.Y. Kang, J.W. Kim, Y.J. Kim (Anyang, Korea)

679  Sleep disorder in Parkinson’s disease: A retrospective Brazilian study C. da S. Migelote, A.B.M. Soldati, L.F. Vasconcellos (Rio de Janeiro, Brazil)

680  Simultaneous OSLER test and EEG recording in sleepy Parkinson’s disease patients D. Neutel, R. Peralta, J. Pires, C. Bentes, J.J. Ferreira (Lisbon, Portugal)

681  Comparison of clinical characteristics and prognosis in between PD with and without RBD T. Nomura, Y. Inoue, K. Nakashima (Yonago, Japan)

682  Disturbed sleep in Parkinson’s disease – An anatomical and pathological study M.E. Kalaitzakis, S.M. Gentleman, R.K.B. Pearce (London, United Kingdom)
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684 Sleep disturbances and dysautonomic dysfunction are associated in patients with Parkinson’s disease
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688 Restless legs syndrome in Korean patients with drug-naive Parkinson’s disease: A nation-wide study
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689 Continuous intravenous L-dopa/carbidopa gel infusion improves nocturnal sleep in advanced Parkinson’s disease
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690 Apraxia correlates with fronto-parietal BOLD-signals evoked by dexterous finger movements in Parkinson’s disease
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702 Anticholinergic responsive hemiparkinsonism due to coiled posterior cerebral artery aneurysm
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703 Heterogeneity of the substantia nigra and red nucleus in Parkinson’s disease based on the 7T MR images
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704 Cerebral amyloid deposition inversely correlates with serotonergic innervation in Parkinson’s disease
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705 BOLD functional MRI of the sensorimotor network using sensorimotor stimulation in a rodent model
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707 Reduced cortical and subcortical sensorimotor activation in Parkinson’s disease during a kinesthetic illusion task
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717 Lentiform fork sign and floating parkinsonian syndrome in a patient with metabolic acidosis
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898 A new tool for assessment and balance training of patients with Parkinson’s disease based on low cost comercial Wii balance board
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901 Weight loss in patients with Parkinson’s disease – The Cardiff experience
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902 Meeting the needs of individuals with Parkinson’s disease and deep brain stimulation in accordance with the National Service Framework for Long-Term Conditions (UK)
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903 Promoting knowledge transfer for optimal physiotherapy: Role of the Association of Physiotherapists in Parkinson’s Disease Europe (APPDE)
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904 Risk factors for ER and hospitalization in Parkinson’s disease: An NPF quality improvement initiative (NPF-QII) study
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905 Development of a palliative care clinic for advanced Parkinson’s disease patients and their caregivers

906 Towards a holistic model of well-being in patients with Parkinson’s disease
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907 Quality of life: What really matters to patients with Parkinson’s disease?
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908 Optimal effect of desmopressin for nocturia in patients with Parkinson’s disease
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909 Efficacy of double-task training on gait performance in Parkinson’s disease: A randomized, controlled, double-blind study
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910 Falls and its impact on people with Parkinson’s disease: Survey of 110 patients attending a regional clinic
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911 Model of rasagiline versus standard care for Parkinson’s disease: Comparison of progression effects
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913 Parkinson’s disease patients in institutionalized care
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914 The effect of exercise on different clinical severity of Parkinson’s disease
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916 Evaluation of an Otago-based exercise group for people with Parkinson’s disease
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918 Bone metabolism markers in Parkinson’s disease
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919 Community based outreach to educate Hispanics living with Parkinson’s disease in Phoenix, Arizona, USA
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925 Effect of proprioceptive neuromuscular techniques (PNF) in balance and gait of Parkinson’s patients
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926 Medical care and socioeconomic impact of L-dopa induced dyskinesia in Parkinson’s disease patients in France – Results of the initial phase of the LIDIA study
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927 Using growth models to identify PD patient sub-classes with different trajectories of health status decline

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937 Quality of life in Parkinson’s disease: Comparing efficacy of the SF-36 and PDQ-8
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938 The social self-management of Parkinson’s disease (PD) in daily life
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951 A double-blind, randomized, controlled, crossover trial of bilateral deep brain stimulation to the globus pallidus internus in severe Tourette syndrome

952 The effect of deep brain stimulation on cerebral palsy: A meta-analysis
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953 A case of treatment-resistant symptomatic headache induced by deep brain stimulation (DBS) of the internal globus pallidus (GPI)
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956 Transient delayed-onset limb dystonia induced by subthalamic nucleus (STN) deep brain stimulation (DBS) in primary cervical dystonia
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957 Successful GPI-Deep brain stimulation in Tourette syndrome (GTS) – Much more than improvement of tics
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958 Cervical dystonia improves with high frequency but not with low frequency pallidal stimulation
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959 Factors predicting improvement in essential head tremor following deep brain stimulation
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963 DBS treatment of DYT1 dystonia: A 10-year, 52 patient experience
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968 Rethinking washout effects of deep brain stimulation in dystonia
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970 Severe akinesia and postural instability in neuroacanthocytosis during GPI-DBS
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972 Deep brain stimulation of the centromedian parafascicular nucleus in rats improve breeding-induced deficient sensorimotor gating
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973 Bilateral thalamic Vim DBS for orthostatic tremor: New insights and literature review
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974 Deep brain stimulation of the subthalamic nucleus in the treatment of essential tremor

975 DBS GPi is effective in a patient with multiple old stereotactic brain lesions for generalized dystonia
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977 Antidromic activation of cortex by clinically effective thalamic DBS for essential tremor
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978 Body weight gain in patients with bilateral deep brain stimulation for dystonia

979 Deep brain stimulation in the caudal zona incerta and posterior subthalamic area is more effective than in ventral intermediate nucleus for various tremor control
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987 Withdrawn by Author

988 Huntington’s disease like phenotypes not linked to CAG repeat expansions in HTT gene

989 Nonketotic hyperglycemia induced chorea: An attempt to identify the prognostic factors
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1002 Myoclonus-dystonia related to a mutation in the epsilon-sarcoglycan gene (SGCE) associated with epilepsy in a genetically proven Tunisian family
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1003 Diagnostic delay in cervical dystonia
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1004 Late onset rest-tremor in DYT1 dystonia
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1005 Cost of cervical dystonia in the United States
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1006 Genetic evidence for the association of the D216H (rs1801968) polymorphism in the DYT1 gene with primary dystonia in an Argentinean population
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1007 Suicide among patients with X-linked dystonia parkinsonism (XDP): A retrospective study

1008 Clinical clues suggestive of future development of parkinsonism in adults with an initial diagnosis of primary lower limb dystonia
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1009 Cervical dystonia subtypes: Baseline analyses from the cervical dystonia patient registry for observation of onabotulinumtoxina efficacy (CD PROBE)
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1010 Rapidly progressive generalized dystonia in deafness-dystonia syndrome (Mohr-Tranebjaerg) with cochlear implant and response to pallidal deep brain stimulation
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1012 Parvocellular red nucleus – A gateway for basal ganglia influence on cerebellar action?
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1014 Reduced parietal connectivity with a premotor writing area in writer’s cramp
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1015 Frequency of autoimmune disorders and autoimmune blood work results in cervical dystonia patients and history of autoimmune disorders in their relatives
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1016 Motor cortex stimulation failed to improve dystonia or pain associated in patients with secondary focal dystonia

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1018 A double blind, randomized, multicenter, crossover study to demonstrate the non-inferiority of abobotulinumtoxinA in the clinical efficacy and safety in comparison with botulinum toxin a, assuming a bioequivalence ratio of 2:5:1 units, in the treatment of cervical dystonia
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1023 A rat knockin model of early onset DYT1 generalized dystonia displays abnormal hindlimb gait
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1024 Procedure oriented sectional anatomy of the foot and ankle region
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1025 Cognitive function in primary dystonia patients treated with DBS GPi
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1026 DBS GPi for primary dystonia: Behavioral and mood features
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1027 Multichannel somatosensory evoked potential (SSEP) recording in writer’s cramp during writing and rest
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1028 Deep brain stimulation of the internal Globus pallidus for dystonic cerebral palsy
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1029 Generation of a novel rodent model of DYT1 dystonia displays abnormal hindlimb gait

1030 Primary writing tremor with mirroring responsive to botulinum toxin
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1031 Cerebellar modulation of human associative plasticity
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1032 Prevalence of neutralizing antibodies in a large cohort of long-term treated CD patients
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1033 Dissociation of posture and balance control demonstrated by idiopathic camptocormia
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1034 SGCE mutations in a Taiwanese cohort of early-onset of dystonia
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1035 The modulation effect of premotor suppression on premotor-motor interaction and motor plasticity in patients with dystonia

1036 Immunotherapy-responsive faciobrachial dystonic seizures (FBDS) associated with LGI1-antibodies: A differential diagnosis in movement disorder practice

1037 The observation of dystonia in demelia with lewy bodies (DLB)
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1038 A randomized, double-blind, placebo-controlled study comparing incobotulinumtoxinA for cervical dystonia (CD) or blepharospasm in the United States – Preliminary baseline results on the health impact of CD on patients using the cervical dystonia impact profile
J.J. Jankovic, M. Thomas, A. Vasquez, K. Sethi, A. Verma, E.J. Pappert, H.H. Fernandez (Houston, TX, USA)

1040 The Dystonia Coalition: Three years of progress

1041 Using vibration training to increase the strength of surround inhibition in healthy controls and patients with hand dystonia

1042 Motor sequence learning and motor adaptation in primary cervical dystonia
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1043 Paroxysmal kinesigenic dyskinesia in the idiopathic bilateral striopallidodentate calcinosis
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1044 Penetration of abnormal temporal discrimination thresholds in unaffected first-degree relatives of adult onset primary torsion dystonia patients
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1045 Notes from a small island: Developing a musicians’ dystonia clinic in Dublin
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1046 Axial dystonia as a phenotype of adult onset primary torsion dystonia
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1047 Motor cortex plasticity and eye blink conditioning are normal in secondary dystonia

1048 Health-related quality of life in primary and secondary dystonia after pallidal deep brain stimulation

1049 BDNF val66met polymorphism in idiopathic dystonia patients in Serbia
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1050 Familial case of speech-induced tongue-protrusion dystonia
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1051 Cost per episode of care for arm spasticity and cervical dystonia: Comparison of two BoNT-A preparations in 20 countries
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1052 Antiphospholipid antibody-associated dystonia: A case report and literature review
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1053 XCIDaBLE: A phase 4, observational, prospective trial evaluating incobotulinumtoxinA for cervical dystonia or blepharospasm in the United States – Preliminary baseline results for patients with blepharospasm
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1054 Adult Tay-Sachs disease with extrapyramidal features associated with a novel mutation in the HEXA gene
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1055 Identification of a genetic risk factor for musician’s dystonia

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1062 The effect of treatment on the balance in cervical dystonia
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1063 A comparison of the diagnosis and treatment processes of families with myoclonic dystonia in the UK and the US
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1064 DYT6 in Japanese patients with primary dystonia – Genetic screening and response to treatment

1065 Using an endophenotype to evaluate the effect of environmental factors in disease penetrance of adult onset primary torsion dystonia
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1066 Intraoral injections of botulinum toxin type A in open jaw dystonia: A novel approach for this complex disorder
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1067 Pisa syndrome – Dystonia or parkinsonism?
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1068 Cervical dystonia patients with an unsatisfactory treatment response to botulinum toxin; improvement after referral to a tertiary center and polymyographic electromyography
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1069 Nonmotor symptoms of Segawa disease (dopa responsive dystonia)
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1070 Faciobrachial dystonic seizures without voltage gated potassium channel (VGKC) antibodies – Seizure or paroxysmal movement disorder?
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1073 Patient education in dystonia and effects on botulinum toxin treatment in Germany
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1075 Voxel-based morphometry of the cerebellum in primary craniocervical dystonia
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1076 Intracortical and brainstem excitability in patients with oromandibular dystonia
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1077 Effects of deep brain stimulation on temporal speech parameters in dystonia: Preliminary results
S. Pinto, E. Demortier, P. Guyonnaud, R. Espesser, M. Vidalhiet, The French Multi-centre SPIDY3 Study Group (Aix-en-Provence, France)

1078 Magnetic resonance spectroscopy of the cerebellum in primary craniocervical dystonia
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1079 Cholinergic dysfunction distorts synaptic integration between corticostral and thalamostriatal pathways in a model of DYT1 dystonia

1080 Levodopa-induced dyskinesias in dopa-responsive dystonia
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1081 Neuropathology of primary cervical dystonia
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1082 Adult onset idiopathic focal lower extremity dystonia: A comparative phenomenological analysis of this novel task specific dystonia
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1083 The effects of rehabilitation using brain techniques on musician focal dystonia
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1084 Relationship of handedness to arm dystonia in CBD
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1085 Association of blepharospasm with parkinsonism, and essential tremor
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1086 Pain correlates with patient global assessment of cervical dystonia severity
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1087 New systems for the assessment of visual temporal discrimination thresholds in dystonia
I. Killane, A. Malloy, K. Roberts, O. Kimmish, R. Whelan, S. O’Riordan, M. Hutchinson, R.B. Reilly (Dublin, Ireland)

1088 Efficacy of myectomy of the pretarsal and preseptal components of the orbicularis oculi and frontalis suspension for the treatment of blepharospasm resistant to botulinum toxin

1089 “Clubcutting” dystonic tremor – A novel occupational task-specific dystonia
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1090 Tremor dominant cervical dystonia is likely to be familial: Clinical characteristics of a large cohort
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1091 Internal globus pallidus stimulation and temporal discrimination thresholds in cervical dystonia – Preliminary data suggests that clinical improvement does not represent improved sensory function

1092 Is synaptic plasticity normal in writer’s cramp? Anodal cerebellar stimulation shows promising preliminary evidence that it can modulate PAS in dystonia

1093 Local complications of botulinum neurotoxin application in movement disorders
N. Cinár, S. Sahin, T.O. Onay, K. Batum, S. Karsidag (Istanbul, Turkey)

1094 Manual volumetry of the cerebellum and thalamus in primary cervical dystonia
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1095 Effects of globus pallidus internus (GPI) DBS on quiet stance in primary multisegmental dystonia: Preliminary data
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1096 Inter-hemispheric inhibition of wrist muscles is different in writer’s cramp with and without mirror dystonia
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1097 Impaired synaptic plasticity and cholinergic dysfunction in the striatum of a novel rat model of DYT1 dystonia

1098 Challenges of making music: An environmental case-control study of musician’s dystonia
A. Schmidt, H.C. Jabusch, E. Altenmüller, J. Möller, A. Göbel, M. Kasten, C. Klein (Lübeck, Germany)

1099 Botulinum toxin therapy in patients with oral anticoagulation: Hematoma frequency vs. other side effects
C. Schrader, P. Tacik, M. Elke, D. Dressler (Hannover, Germany)

1100 Myofibrillar disorganization characterizes myopathy of camptocormia in Parkinson’s disease
A. Wrede, N.G. Marggraf, H.H. Goebel, G. Deuschl, W.J. Schulz-Schaeffer (Göttingen, Germany)

1101 Satisfaction with botulinum toxin treatment: A cross-sectional study of patients with cervical dystonia
K.D. Sethi, R. Rodríguez, B. Olajíinka (Greensboro, NC, USA)

1102 Clinical characteristics of dystonia in patients with Wilson’s disease; the frequency of extensor truncal dystonia
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1103 Association of rs1182 polymorphism in TOR1A with primary dystonia in Chinese population
W. Song, R. Huang, K. Chen, Y.P. Chen, B. Cao, Y. Yang, H. Shang (Chengdu, China)

1104 Association of the Val66Met polymorphism of BDNF with primary dystonia in Chinese population
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1105 IncobotulinumtoxinA (NT 201, XEOMIN®) administered at flexible intervals of 6-20 weeks in subjects with cervical dystonia
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1106 Cervical dystonia substantially impacts employment status, absenteeism, and presenteeism: Baseline results from Cervical Dystonia Patient Registry for the Observation of OnabotulinumtoxinA Efficacy (CD PROBE)
M. Stacy, L. Bloudek, M. Schwartz, M. Brin, S. Papapetropoulos (Durham, NC, USA)

1107 The prevalence of primary dystonia: A systematic review and meta analysis
T. Steeves, L. Day, N. Jette, T. Pringsheim (Toronto, ON, Canada)

1108 Cervical dystonias – Clinico-radiologic correlations and differentiation of torticaput and torticollis
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1109 Patient experiences and awareness of the diagnosis and treatment of dystonia
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1110 A new mutant mouse with symptoms of dystonia
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1111 Dopa-responsive dystonia revisited: Diagnostic delay, residual signs, and non-motor signs
V. Tadic, K. Meike, N. Brüggemann, S. Stiller, J. Hagenah, C. Klein (Lübeck, Germany)

1112 Distribution of mutant torsinA in living cells
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1113 **ANCHOR-CD** (AbobotulinumtoxinA Neurotoxin: Clinical & Health economics Outcomes Registry in Cervical Dystonia): A multicenter, observational study of dystop in cervical dystonia: Baseline data and cycle one outcomes data

R.M. Trosch, C.L. Cornella, M.F. Lew, P.A. LeWitt, C. Singer, S. Russell, S. Chang, C.M. Clary, Y. Silay, C.M. Coleman, D. Marchese, J.P. Hubble (Southfield, MI, USA)

1114 **ANCHOR-CD** (AbobotulinumtoxinA Neurotoxin: Clinical & Health economics Outcomes Registry in Cervical Dystonia): A multicenter, observational study of dystop in cervical dystonia: Patient demographic, history, and health economics data

R.M. Trosch, C.L. Cornella, M.F. Lew, P.A. LeWitt, C. Singer, D. Marchese, S. Russell, S. Chang, C.M. Clary, Y. Silay, C.M. Coleman, J.P. Hubble (Southfield, MI, USA)

1115 **XCiDable**: A phase 4, observational, prospective trial evaluating incobotulinumtoxinA for cervical dystonia (CD) or blepharospasm in the United States – Preliminary baseline results for patients with CD

D. Truong, F. Danisi, K. Sethi, A. Verma, E.J. Pappert, H.H. Fernandez (Fountain Valley, CA, USA)

1116 Withdrawn by Author

1117 An unusual case of late onset myoclonic dystonia: Possible association with past electric injury?

T. Tsrioni, G. Xiromerisiou, D. Tsitsos, M. Krommyda, D. Kiourtidis, C. Zakesidis, E. Katiouli, I. Tsitsios (Thessaloniki, Greece)

1118 Cerebellar cTBS repairs eyeblink conditioning in primary cervical dystonia


1119 Dystonia in FMRI premutation carriers

C.L. Vaughan, B. Ouyang, C.G. Goetz, E.M. Berry-Kravis, R.J. Hagerman, M.A. Leehey, D.A. Hall (Chicago, IL, USA)

1120 Botulinumneurotoxin A might improve dystonia secondary to complex regional pain syndromes (CRPS)

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1121 Identification of the genetic cause in the Australian family with spasmatic dysphonia (DYT4)


1122 THAP1 mutations and dystonia phenotypes: A metaanalysis, genotype phenotype correlations and identification of novel mutations


1123 A case of adult onset Sandifer syndrome

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1124 Two novel mutations of GTP cyclohydrolase I gene and genotype-phenotype correlation in Chinese dopa-responsive dystonia patients

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1125 Functional and morphometric changes in the globus pallidus in writer’s cramp

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1126 Fatal paroxysmal non-kinesigenic dystonia

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1128 Diffusion tensor imaging contributes to differentiate Richardson’s syndrome from progressive supranuclear palsy-parkinsonism

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1131 Multiple system atrophy presenting like corticobasal syndrome at onset

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1132 Clinical features and 123I-FP-CIT SPECT imaging in vascular parkinsonism and Parkinson’s disease


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1134 The impact of non-motor symptoms of Parkinson’s disease on the quality of life in Indian patients

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1135 Isolated backward gait disturbances as an early sign of progressive supranuclear palsy. Case report

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1136 Voluntary, spontaneous and reflex blinking in multiple system atrophy

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1140 Parkinsonism in a cohort of patients with mitochondrial disorders

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1149  Clinical and imaging characteristics of dementia in MSA: Amyloid imaging and cortical thickness analysis  
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1150  Bone mineral density and grip strength in a cohort of older Parkinson’s disease patients attending a regional geriatric medicine clinic in North West Ireland  
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1155  Extremely long lasting progressive supranuclear palsy: A case report  
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1156  Clinical profile of parkinsonism: Study from a tertiary care referral centre  
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1163  Familial corticobasal syndrome associated with basal ganglia hypointensities  
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1166  Clinical factors related to the size of carotid arterial plaque in patients with vascular parkinsonism  
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1167  Impairment of cerebral auto-regulation in multiple system atrophy and Parkinson’s disease  
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1168  Clinical and imaging characteristics of dementia in MSA: Amyloid imaging and cortical thickness analysis  
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1171  Hypokinesia without decrement distinguishes progressive supranuclear palsy from Parkinson’s disease  
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S. Setthawatcharawanich, P. Chongphhattararat, M. Vittayakittipong, J. Taensri (Hatayai, Thailand)

1302 A multicenter, open-label study to assess the long-term safety of dronedarone in patients with symptomatic neurogenic orthostatic hypotension (NOH 304)
H. Shill, S. Vennino, R. Hutchman, L. Adkins, S. Isaacson (Sun City, AZ, USA)

1303 Pridopidine increases glutamatergic neuron firing in the frontal cortex
B. Gronier, N. Waters, H. Ponten, D. Klamer, S. Waters, J. Tedoff (Gothenburg, Sweden)

1304 Neuroprotective effects of liposomal-formulated curcumin (lipocurc), putative HDAC (histone deacetylase) modulator in modifying the phenotype of Park7⁻/-knockout (Park 7⁻/KO) rat paradigm of Parkinson’s disease
K. Terpstra, S. Chiu, Y. Bureau, H. Jinucin, M.D. Mulik, H. Rabeba, L. Helson (London, ON, Canada)

1305 Subgroup efficacy analysis: Orthostatic hypotension questionnaire composite score in patients with neurogenic orthostatic hypotension treated with dronedarone
G. Wenning, P. Low, C. Szakacs, H. Kaufmann (Innsbruck, Austria)

1306 A survey of tardive dyskinesia among institutionalised Nigerian patients with schizophrenia
A.O. Adelofusio, B. Fadipe (Abeokuta, Nigeria)

1307 Methcathione (ephedrine) and manganese both reduce D2-receptor function: An animal SPECT study
A. Asser, M. Raki, J. Juurmaa, V. Krispin, M. Muldmaa, H. Rätsep, S. Pöldsepp, P. Männistö, S. Kõks, K. Bergström, P. Tabas (Tartu, Estonia)

1308 Olanzapine induced jaw dystonia and dysphagia – Is it a focal form of secondary paroxysmal kinesiogenic dyskinesia (PKD)?
S. Bhattacharjee, A. Dutta, M. Tiwari, H. Kumar (Kolkata, India)

1309 Ephedrone encephalopathy: Correlation between clinical course and hyperintensity of the basal ganglia on the T1-weighted MRI images
L. Chinchaladze, I. Khatchiashvili, N. Lobianidze, N. Akiashvili, T. Maisuradze, M. Megrelishvili, M. Janelidze (Tbilisi, Georgia)

1310 Contribution of decreased serotonin release to the therapeutic effects of deep brain stimulation in a rodent model of tardive dyskinesia
M.C. Creed, P.J. Fletcher, C. Hamani, J.N. Nobrega (Toronto, ON, Canada)

1311 Subacutely progressive dystonia during trastuzumab treatment in breast cancer: A case report
S. Dellapasqua, F. Del Sorbo, A. Albanese, M. Colleoni (Milan, Italy)

1312 Inpatient movement disorders: Beware of the drugs!
M. Guittan, A. Alonso-Canovas, J. Garcia-Caldentey, I. Hernandez-Medrano, A. DeFelipe, J.C. Martinez-Castrillo, I. Corral (Madrid, Spain)

1313 Comparison of non-motor symptoms between drug induced parkinsonism and idiopathic Parkinson’s disease
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1314 Is 6 months of neuroleptic withdrawal sufficient to distinguish drug-induced parkinsonism from Parkinson’s disease?
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1315 The efficacy of alpha lipic acid in treatment of movement disorders induced by manganese
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1316 Capturing choreatic dyskinesias over levodopa dose cycle in Parkinson’s disease
T. Mera, M. Burack, F. Bonsignore, J. Giuffrida (Valley View, OH, USA)

1317 Levodopa-induced dyskinesias are accompanied by changes in corticostriatal and thalamostriatal synapses
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1318 Acute phenytoin-induced dyskinesia
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1319 Parkinsonism followed by dystonia in a pediatric case of midbrain tumor treated by chemotherapy and radiotherapy: An unusual presentation
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1320 Prevalence and risk factors for the development of dyskinesia among Filipino patients with Parkinson’s disease: A 7 year retrospective study
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1321 New abnormal movements and MRI findings associated with metronidazole (MTZ)-induced encephalopathy (MIE), a case series
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1322 Case report: Acute dystonic reaction in a healthy toddler following accidental methylphenidate ingestion
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1323 Dyskinesia in Jewish-Ashkenazi Parkinson’s disease patients: Effect of the leucine-rich repeat kinase 2 (LRRK2) G2019S mutation
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1324 Stereotypy after cerebellar infarction
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1325 What makes you tic? An experimental study of Tourette-like responding in healthy individuals
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1326 Limbic and motor circuits involved in symmetry behavior in Tourette syndrome

1327 Painful/-less legs with moving toes: Unilateral or bilateral involvement
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1328 A de novo case of tourettism caused by citalopram in an adult patient
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1329 Tic inhibition and premonitory urges are not correlated in Gilles de la Tourette syndrome
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1330 Motor stereotypes in Fragile X syndrome
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1331 Gilles de la Tourette disorder and its relationship with OCD, ADHD and autism: A second order factor analysis
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1332 Genetic polymorphism of BTBD9 gene in Polish patients with Gilles de la Tourette syndrome
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1333 Saccadic eye movements in Tourette syndrome
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1334 Olfactory deficits in Tourette syndrome
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1335 Diagnostic and prognostic issues in adolescents with psychogenic tics
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1336 Acute catatonia during pregnancy secondary to anti NMDA-R encephalitis
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1337 Paroxysmal movement disorders in multiple sclerosis – A case series
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1338 Drugs related to Tourette-like syndrome: A case/non-case study in the French Pharmacovigilance database
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1339 Adult onset tic disorders – A case series
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1340 Regional cerebral blood flow (rCBF) modified by deep brain stimulation (DBS) in patients with medically-refractory Tourette syndrome (TS)

1341 Reduced GABA in the sensorimotor cortex (SMC) of patients with Tourette syndrome (TS) as measured by h-magnetic resonance spectroscopy (MRS)
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1342 Impact of progression of Parkinson’s disease on nocturia
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1345 Stress induced-salivary alpha-amylase secretion decreases in patients with Parkinson’s disease
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1346 Parkinson’s disease and lethal outdoor work
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1347 Comparison of lower urinary tract symptoms and urodynamic parameters between patients with Parkinson’s disease and Parkinson-plus syndromes
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1348 Dysphagia in Parkinson’s disease: Correlation with the cardinal symptoms of the disease
  F. Loureiro, A. Dalbem, S. Trentin, I. Gomes (Porto Alegre, Brazil)

1349 Cardiovascular effects of deep brain stimulation of the subthalamic nucleus (DBS-STN) in Parkinson’s disease (PD)
  M. Mata, J. Toquero, J.J. Lopez Lozano (Majadahonda, Spain)

1350 Impaired cardiac response and its relationship with orthostatic hypotension in Parkinson’s disease
  T. Nakamura, T. Hara, Y. Mizutani, H. Watanabe, M. Hirayama, G. Sobue (Nagoya, Japan)

1351 Are we measuring postural blood pressure in our movement disorder clinics? A multicentre survey of current practice
  T. Ong, R. Davies, C. Holden, I. Gunawardena (Nottingham, United Kingdom)

1352 Reduced cardiovascular risk factors and cardiovascular events in idiopathic Parkinson’s disease (IPD) patients compared with controls
  J.M. Rabey, G. Abruzzese, T. Prokhorov, U. Bonuccelli (Zerifin, Israel)

1353 Prevalence of autonomic dysfunctions in Parkinson’s disease: Is initial presentation sympathetic or parasympathetic?
  S.R. Schreglmann, M. Sommerauer, H. Vogel, G. Eisele, C.R. Baumann (Zurich, Switzerland)

1354 Ventilatory response to hypercapnia is impaired in mild Parkinson’s disease
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1355 Can alpha-synuclein in the colon serve as a biomarker for premotor PD? Evidence from 3 cases

1356 The frequency of autonomic failure symptoms in Parkinson’s disease: Is initial presentation sympathetic or parasympathetic?
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1357  Mechanisms of urinary dysfunction in Parkinson’s disease; participation in basal ganglia circuitry and sensory/emotional nervous systems

1358  Parkinson and Gaucher disease phenotype in patients with Gaucher/PD from Jerusalem, Israel
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1359  Intergenerational instability and genetic flow of the CAG repeat at the ATXN2 gene in Cuban families with spinocerebellar ataxia type 2

1360  Alpha-synuclein H50Q, a novel pathogenic mutation for Parkinson’s disease

1361  Dystonia as a clinical feature of monosomy 18p
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1363  Prrt2 gene mutations: From paroxysmal dyskinesia to episodic ataxia and hemiplegic migraine

1364  High throughptargeted re-sequencing in neurodegenerative diseases and movement disorders

1365  Cognitive function of asymptomatic first degree relatives of patients with Parkinson’s disease who are carriers of severe GBA mutations – An IMRI study
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1366  GBA-associated PD: Neurodegeneration, altered membrane metabolism and lack of energy failure

1367  A novel genetic prediction score in myoclonus-dystonia

1368  Mutations in parkin and LRRK2 genes in two patients with schizophrenia
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1369  Association of apolipoprotein E polymorphisms and dopamine replacement therapy complications in Parkinson’s disease
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1370  First stage association analysis of neuropathologically proven PD confirms MAPT as an independent risk factor for PD

1371  Analysis of LINGO1 (rs9652490) polymorphism in essential tremor and sporadic Parkinson’s disease in a Taiwanese population

1372  Genetic susceptibility loci, environmental exposures, and Parkinson’s disease: A case-control study using interaction analysis

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1374  MAPT 347 G/C polymorphism modifies risk of a common LRRK2 variant for Parkinson’s disease in Chinese
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1375  Course & life expectancy of SPG11

1376  GTP cyclohydrolase 1-deficient dopa-responsive dystonia – First experience in mutation detection in Serbian patients
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1377  A clinicopathological study of parkin-linked parkinsonism – A study of 5 cases and comparison with Parkinson’s disease

1378  Interesting case of Rett syndrome (RTT) in the daughter of a Filipino male with X-linked dystonia parkinsonism (XDP, DYT3)
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1379  Parkin gene mutation with an autosomal dominant inheritance – A family case report
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1380  β-glucocerebrosidase gene haplotype analysis in Parkinson’s disease
D. Ruran, A. McNeill, J. Bras, A. Schapira, J. Hardy (London, United Kingdom)

1381  Role of variations in Mortalin in the development of early-onset Parkinson’s disease
K. Freimann, V. Tadic, N. Brüggemann, J. Hageman, K. Lohmann, C. Klein (Lübeck, Germany)

1382  Sequence alterations in the putative promoter of RAB7L1 reduce the risk for Parkinson’s disease in Ashkenazi Jews
Z. Gan-Or, A. Bar-Shira, D. Dahary, A. Mirelman, M. Kedmi, T. Gurevich, N. Giladi, A. Orr-Urtreger (Tel Aviv, Israel)

1383  Mutations in PRKRA gene are a rare cause of genetic dystonia in Italy
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1384 A novel TOR1A mutation in a patient with segmental dystonia
J. Graf, K. Lohmann, A. Ferbert, V. Kostic, E. Moro, A. Münchau, A.A. Kühn, E. Altenmüller, K. Zeuner, J. Hagenah, N. Brüggemann, C. Klein, A. Schmidt (Lübeck, Germany)

1385 Association of the adenosine receptor A2A (ADORA2A) gene with L-dopa induced dyskinesia in Parkinson’s disease
L. Greenbaum, O.S. Cohen, R. Inzelberg, N. Kaplan, G. Yahalom, E. Kozlova, H. Strauss, B. Lerer, S. Hassin-Baer (Ramat Gan, Israel)

1386 Possible high frequency of G2019S LRRK2 mutation frequency among Ashkenazi Jews patients with multiple system atrophy parkinsonism type in Israel

1387 Genetic cause of X-linked dystonia-parkinsonism in a female patient

1388 Piloting targeted next-generation sequencing for screening the known ataxia genes: The next step for all diagnostic laboratories
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1389 The role of SCARB2 as susceptibility factor in Parkinson’s disease

1390 Analysis of GWAS-linked GAK locus in ethnic Chinese
Y.H. Koh, W.L. Au, L.C. Tan, K.M. Prakash, E.K. Tan, Y. Zhao (Outram Road, Singapore)

1391 The SNCA gene two novel missense mutations in Parkinson’s disease
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1392 Two faces of the same coin: Benign familial infantile seizures and paroxysmal kinesigenic dyskinesia caused by PRRT2 mutations
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1393 CAG analysis, haplotypes, unstable repeats, recombination, pedigrees, gene dosage, genotype-phenotype relationship and genetics polymorphisms in the SCA2 (ATXN2) locus

1394 Movement disorders in cerebrotendinous xanthomatosis (CTX)
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1395 Novel PRRT2 mutations in a Taiwanese cohort with paroxysmal kinesigenic dyskinesia

1396 Genetic investigation of Parkinson’s disease in South Wales
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1397 Pure parkinsonism caused by ATXN2 mutation in a Chinese family

1398 PRRT2 mutations are a major cause of paroxysmal kinesigenic dyskinesia in the European population

1399 Dementia/parkinsonism and multiple sclerosis in a large Mennonite kindred
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1400 Genetic analysis of paroxysmal dystonic choreoathetosis (PDC/PNKD); patient and hamster model study

1401 Is anything lying behind parkin heterozygous mutations?

1402 The G2019S mutation in the LRRK2 gene is associated with specific gait dynamics changes in patients with Parkinson’s disease
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1412 The prevalence of cancer in patients with Parkinson’s disease who are carriers of the G2019S mutation in the LRRK2 gene
A. Mirelman, T. Gurevich, A. Thaler, K. Yasinovsky, Y. Doyev, L. Bar Gil, A. Bar Shira, A. Orr-Utregre, N. Giladi (Tel Aviv, Israel)

1413 Homozygosity and copy number variant analysis in multiple system atrophy
K.Y. Mok, A. Sailer, L. Schottlaender, MSA Study Consortium (London, United Kingdom)

1414 Genome-wide association study in cervical dystonia

1415 Reduced arm swing in ultrasound-based gait analysis is a subtle motor sign in heterozygous PINK1 mutation carriers
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1416 Founder effect of PANK2 1583C>T (T528M) mutation in Serbian pantothenate kinase-associated neurodegeneration patients
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1417 Is the brain-derived neurotrophic factor (BDNF) Val66Met genetic polymorphism associated with impulsive-compulsive behaviours in Parkinson’s disease?

1418 Contiguous gene deletions involving the SGCE gene: A clinical description

1419 Brain-derived neurotrophic factor (BDNF) polymorphisms and risk of Parkinson’s disease
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1420 GWAS-linked GAK locus in Parkinson’s disease in Han Chinese and meta-analysis
L. Li, X. Chang, X. Mao, J. Zhang, D. Zhao, R. Peng, E.K. Tan (Chengdu, China)

1421 Mosaicism of alpha-synuclein gene rearrangements: Report of 2 unrelated cases of early-onset parkinsonism
C. Perandones, J.C. Giugni, D.S. Calvo, G.B. Raina, D. Kasperaviciute, M. Radrizzani, I. Fernandez Mata, F.E. Micheli (Ciudad Autonoma de Buenos Aires, Argentina)

1422 PINK1-dependent mitophagy in dopaminergic neurons does not require LC3 conversion
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1423 The broad phenotypic spectrum of Machado Joseph disease: Spastic paraparesis as a clinical presentation of SC3A
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1424 Whole-genome sequencing in familial Parkinson’s disease
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1425 First genome-wide association study in multiple system atrophy
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1426 Knowledge of and interest in genetic information among Parkinson’s disease patients and caregivers

1427 Japanese 2nd GWAS identifies strong association at a novel risk locus and MCC1 for Parkinson’s disease

1428 Exome sequencing in familial multiple system atrophy

1429 Linkage analysis and exome sequencing in autosomal dominant Parkinson’s disease
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1430 Characterization of PINK1 mutant iPS cell-derived dopaminergic neurons
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1431 Multi-centered clinico-genetic analysis of VPS35 gene in Parkinson’s disease
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1432 Large-scale replication and heterogeneity in Parkinson’s disease genetic loci

1433 PRRT2 gene mutations in a large family with paroxysmal kinesigenic dyskinesia and co-segregation with migraine with aura

1434 Delta deletion in patients with idiopathic Parkinson’s disease
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1435 Targeted resequencing of the SNCA region in Parkinson’s disease
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1436 Mutation analysis for PLA2G6 in patients with Parkinson’s disease/ frontotemporal type of dementia
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1437 Whole exome sequencing in progressive supranuclear palsy: Role of rare coding variation
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1438 Genotype-phenotype correlations in spastic paraplegia type 7

1439 Evidence of EIF4G1 and EIF4F-complex variations involvement in Parkinson’s disease

1440 Investigation of essential tremor and Parkinson’s disease in families
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1441 Glucocerebrosidase L444P mutation confers genetic risk factor for Parkinson’s disease in central China
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1442 MAPT rs242562 and GSK3β rs334558 are associated with Parkinson’s disease in a central Chinese cohort
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1443 Identification of novel THAP1 sequence variants in patients with blepharospasm

1444 The first trial of genetic diagnosis of DYT-1 and DYT-5 dystonia in Belarus
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1445 Identification of C9orf72 hexanucleotide repeat expansion in a Taiwanese cohort with disorders of amyotrophic lateral sclerosis and frontotemporal dementia
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1446 Running wheel prevents the development of L-DOPA-induced dyskinesias and abnormal striatal DARPP-32 signaling in 6-OHDA-hemiparkinsonian mice
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1447 Inflammatory responses are attenuated in incidental Lewy body disease
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1448 Expression of synaptophysin and synaptotagmin-XI proteins in normally aging human substantia nigra pars compacta
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1452 Acupuncture-induced dopaminergic neuron protection and motor function improvement mediated by phosphatidylinositol 3-kinase/Akt signaling pathway in the mice with MPTP-induced Parkinson’s disease model
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1453 Assessing neural oscillatory activity in patients with Parkinson’s disease
M. Brookes, M. Stephenson, D. Price, L. Martin, P. Gowland, S. Wharton, D. Auer, A. Blazewjuska, S. Schwarz, N. Bajaj, P. Morris (Nottingham, United Kingdom)

1454 The Parkinson’s disease protein DJ-1 binds metals and protects against metal induced cytotoxicity

1455 GDNF replacement augments motor impairments and nigrostriatal dopamine deficits in 12 month old mice with a partial deletion of GDNF
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1456 Loss of function of the Parkinson’s disease-associated mitochondrial chaperone mortalin in cellular models translates into age-dependent phenotypes in the first in vivo mortalin knockdown model
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1457 Increased level of IL-10 in cerebrospinal fluid of patients with Parkinson’s disease

1458 Intracellular urate modulates vulnerability of dopaminergic neurons
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1459 Withdrawn by Author

1460 “What do these numbers mean?” Decoding assessment results from an interdisciplinary Parkinson’s rehab team
J.M. Dean (Longmont, CO, USA)

1461 Neuroprotective effect of bee venom against 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine-induced neurotoxicity in neuroblastoma SH-SY5Y cells

1462 MyD88 deficiency results in both cognitive and motor impairments in mice
J. Drouin-Ouellet, M. LeBel, M. Filali, F. Cicchetti (Quebec, QC, Canada)

1463 A potential role for mRNA surveillance in Parkinson’s disease?
A. Henderson, D. Chow, H. Yin, T.G. Beach, T. Dunckley (Phoenix, AZ, USA)

1464 Parkinson dysfunction results in defective depolarization-induced exocytosis and reorganization of cytoskeleton

1465 Investigation of the mechanisms of α-synuclein secretion in vivo
E. Emmanouilidou, T. Papasilekas, K. Geroszisz, P.C. Ioannou, K. Vekrellis (Athens, Greece)

1466 Influence of dual task and freezing of gait on obstacle crossing behaviour of patients with Parkinson’s disease
F.P. Faria, A. Almeida, J. Jones (Waterloo, ON, Canada)

1467 Astroglial activation induced by different forms of α-synuclein
L. Feliner, K. Schanda, M. Reindl, W. Poewe, G.K. Wenning, N. Stefanova (Innsbruck, Austria)

1468 Characterization of adult neurogenesis in a transgenic mouse model of multiple system atrophy
P. Fuchs, L. Aigner, W. Poewe, G.K. Wenning, N. Stefanova (Innsbruck, Austria)

1469 ATP13A2 mutations impair mitochondrial function in fibroblasts from patients with Kufor-Rakeb syndrome
A. Grunewald, B. Arns, F. Seibler, A. Rakovic, A. Münchau, A. Ramirez, C.M. Sue, C. Klein (Lübeck, Germany)

1470 Survival but not proliferation of neural precursor cells is reduced in the MPTP model of Parkinson’s disease
T. Grimm, J.C.M. Schlachetzki, B. Winner, B. Jerger, J. Winkler (Erlangen, Germany)
**ABSTRACTS BY TOPIC**

**1471** The impact of patient age on patterns of diagnosis and treatment among patients with Parkinson’s disease  
B. Grubb, M.J. Lage (Kansas City, MO, USA)

**1472** The impact of patient sex on patterns of diagnosis and treatment among patients with Parkinson’s disease  
B. Grubb, M.J. Lage (Kansas City, MO, USA)

**1473** The AAA-ATPase VPS4 regulates extracellular secretion and lysosomal targeting of α-synuclein  
T. Hasegawa, M. Konno, T. Baba, N. Sugeno, A. Kikuchi, E. Miura, A. Takeda (Sendai, Japan)

**1474** DJ-1 associates with synaptic membranes  

**1475** Effect of L-dopa treatment on heart sympathetic innervation in parkinsonian monkeys  

**1476** Mild dopaminergic lesions are accompanied by robust changes in subthalamic nucleus activity  

**1477** Behavioral and histological analysis of a partial double lesion model of MSA-P  
C. Kaindlstorfer, J. Garcia, C. Winkler, A. Marsch, G.K. Wenning, G. Nikkiah, M. Döbrössy (Innsbruck, Austria)

**1478** A rodent model for direct visualization of α-synuclein oligomers in the nigrostriatal system  
L.V. Kalia, H. Dimant, S.K. Kalia, L.N. Kibuuka, D. Ebrahimi-Fakhari, N.R. McFarland, P.J. McLean (Toronto, ON, Canada)

**1479** Towards a new monkey model of advanced Parkinson’s disease  

**1480** Enteric and central nervous system pathology in a novel mouse model: Implications for pathogenesis in pre-motor Parkinson’s disease  
L.P. Kelly, P.M. Carvey, R.A.E. Bakay, J.H. Kordower (Chicago, IL, USA)

**1481** Parkinson’s disease mouse model and the acupuncture treatment: How does it improve motor function in an aspect of synaptic dopaminergic availability  

**1482** Dynamic GTPase activity decreases alpha-synuclein uptake in neuronal and oligodendroglial cells  
M. Konno, T. Hasegawa, T. Baba, E. Miura, N. Sugeno, A. Kikuchi, M. Aoki, A. Takeda (Sendai, Japan)

**1483** Rodent and primate models of Parkinson’s disease based on viral vector mediated overexpression of α-synuclein  
J.B. Koprich, T.H. Johnston, P. Huot, J.M. Brotchie (Toronto, ON, Canada)

**1484** Intact olfaction as hallmark feature of multiple system atrophy: Experimental evidence  
P. Krismer, Y. Li, G.K. Wenning, N. Stefanova (Innsbruck, Austria)

**1485** Withdrawn by Author

**1486** Deep brain stimulation of the entopeduncular nucleus in rats prevents apomorphine-induced deficient sensorimotor gating  
D.K. Posch, K. Schwabe, J.K. Krauss, G. Lütjens (Hannover, Germany)

**1487** The contribution of the self PolyQ load [somatic mosaicism] in the CNS to the onset, disease duration and progression rate of SCA2 and phenotypic delineation  
J.M. Laffiita-Mesa, Y. Vázquez Mojena, D.A. Cuello Almarales, L.C. Velázquez-Pérez (Holguin, Cuba)

**1488** Epigenetics and ataxin-2 locus  

**1489** Treatment for patients diagnosed with Parkinson’s disease: Differences based upon diagnosing physician  
B. Grubb, M.J. Lage (Gronot, CT, USA)

**1490** High precision isotope measurements show poorer control of copper metabolism in parkinsonism  
F. Larner, B. Sampson, M. Rehkamper, D.J. Weiss, J. Dainty, S. O’Riordan, T. Panetta, P.G. Bain (London, United Kingdom)

**1491** Human α-synuclein activates transcription factor Nrf2 in microglia: Implications in the inflammatory processes of PD  
I. Lastres-Becker, N.G. Innamorato, A. Cuadrado (Madrid, Spain)

**1492** Mesenchymal stem cells augment neurogenesis in the subventricular zone and enhance differentiation of neural precursor cells into dopaminergic neurons in the substantia nigra of a parkinsonian model  
P.H. Lee, H.J. Park, J.Y. Shin (Seoul, Korea)

**1493** Pathological alpha-synuclein oligomers: Induction in vitro and in vivo by ferric iron  

**1494** SIRT4 is upregulated in patients with Parkinson’s disease and Lewy body dementia  
C.C. Luca, D. Eldick, S. Garamszegi, D. Mash (Miami, FL, USA)

**1495** Alpha-synuclein as a biomarker of Parkinson’s disease: A systematic review  
N. Malek, D. Swallow, K. Grosset, D. Grosset (Glasgow, United Kingdom)

**1496** LRRK2 and autophagy: Molecular targets for Parkinson’s disease?  

**1497** The protective role of AMPK and Akt signalling in α-synuclein neurotoxicity in vitro  

**1498** Changes in EEG activity during deep brain stimulation support antидromic activation of cortical neurons in a biophysical model  
J. Modolo, A.W. Thomas, A. Legros (London, ON, Canada)

**1499** Modelling Parkinson’s disease by chronic systemic exposure of α-synuclein overexpressing rats to the pesticide, rotenone  
P.J. Mulcahy, A. O’Doherty, T. O’Brien, D. Kirik, E. Dowd (Galway, Ireland)

**1500** Development and characterisation of a novel model of Parkinson’s disease by sequential intra-nigral administration of AAV-α-synuclein and the pesticide, rotenone, in the rat  
P.J. Mulcahy, A. O’Doherty, T. O’Brien, D. Kirik, E. Dowd (Galway, Ireland)

**1501** No loss of mitochondria and an increase in recessive Parkinson’s disease proteins are found in sporadic Parkinson’s disease  
K.E. Murphy, A.A. Cooper, G.M. Halliday (Sydney, Australia)
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1502 Evaluation of Braak staging in at-risk individuals for Parkinson’s disease

1503 Limited cleavage by matrix metalloproteinase 9 promotes tau oligomer formation
G. Nübling, J. Levin, B. Bader, L. Israel, H. Kretzschmar, S. Lorenzli, A. Giese (Munich, Germany)

1504 Specific binding of tau oligomers to lipid membranes detected by confocal single particle fluorescence
E. Plesch, G. Nübling, J. Levin, F. Kamp, A. Giese (Munich, Germany)

1505 Phosphorylation by GSK-3β modulates tau oligomer formation and co-aggregation with α-synuclein
G. Nübling, B. Bader, J. Levin, J. Hildebrandt, H. Kretzschmar, A. Giese (Munich, Germany)

1506 Cyclic polymer structure shows high potential for neuronal transfection
B. Newland, E. Dowd, W. Wang, A. Pandit (Galway, Ireland)

1507 Reversibility of heterosynaptic cortical plasticity in human primary motor cortex
Z. Ni, C. Gunraj, P. Kailey, R. Chen (Toronto, ON, Canada)

1508 Defects in PINK1 are part of Alzheimer’s disease pathogenesis and associate with alterations in the mitochondrial fission protein Drp1

1509 Unmyelinated axons are more vulnerable to degeneration than myelinated axons of the cardiac nerve in Parkinson’s disease
S. Orimo, T. Uchihara, T. Kanazawa, Y. Itoh, K. Wakabayashi, A. Kakita, H. Takahashi (Tokyo, Japan)

1510 Influence of perturbation velocity on balance control in Parkinson’s disease

1511 Unmasking adenosine 2A receptors (A2A-Rs) in monkey basal ganglia output neurons by using cholera toxin
S. Sierra, A.J. Rico, N. Luquin, V. Gómez, E. Roda, J.L. Lanciego (Pamplona, Spain)

1512 The E3 ligase Nedd4 participates in the internalization process of α-synuclein
N. Sugeno, T. Hasegawa, M. Konno, E. Miura, T. Baba, A. Kikuchi, M. Aoki, A. Takeda (Sendai, Japan)

1513 Neurpathology of PGC-1α deficiency recapitulates features of mitochondrial encephalopathies but not of neurodegenerative disorders
L. Szalardy, D. Zadori, I. Plangar, P. Weydt, L. Vecsei, P. Klivenyi, G.G. Kovacs (Szeged, Hungary)

1514 Serum level of inflammatory factors in patients with Parkinson’s disease
S. Szlufik, D. Koziorowski, R. Tomasiuk, A. Friedman (Warsaw, Poland)

1515 A case of familial amyloid polyneuropathy with parkinsonism
S.R. Taneja, W. Tse (New York, NY, USA)

1516 Symptoms of peak dose dyskinesia are associated with an increased tendency for iTD expression on the indirect striatal output pathway
S.L. Thiele, B.J. Chen, J.M. Brotchie, J.E. Nash (Scarborough, ON, Canada)

1517 Investigation of the role of mitochondrial dysfunction in Parkinson’s disease in patients with mutations in the parkin gene
C. van der Merwe, J. Blanckenberg, B. Loos, F. Henning, D. Lombard, C. Kinneir, J. Carr, S. Bardin (Stellenbosch, South Africa)

1518 Oxidative stress in Parkinson’s disease compared to other neurodegenerative diseases
R. Duran, B.J. Morales, F.J. Barrero, F.J. Gutierrez, F. Vives (Granada, Spain)

1519 Dopaminergic modulation of corticostriatal transmission in monkeys
Y. Ma, Y. Smith, T. Wichmann (Atlanta, GA, USA)

1520 Targeting the CMA pathway ameliorates alpha-synuclein mediated neurodegeneration
M. Xilouri, O.R. Brekk, P. Themistoklis, K. Vekrellis, L. Stefanis (Athens, Greece)

1521 Implication of autophagy in Parkinson’s disease: Rotenone-based models
N. Xiong, M. Jia, J. Xiong, J. Huang, T. Wang (Wuhan, China)

1522 α-synuclein BAC transgenic mice as a model for Parkinson’s disease manifested decreased anxiety-like behavior
H. Yamakado, Y. Moriwaki, N. Yamasaki, T. Miyakawa, J. Kurisu, K. Uemura, H. Inoue, M. Takahashi, R. Takahashi (Kyoto, Japan)

1523 Cell cycle regulation promotes survival of dopaminergic neurons in experimental Parkinson’s disease
T. Yasuda, K. Yoshikawa, S. Przedborski, Y. Mizuno, H. Mochizuki (Saitama, Japan)

1524 Parkinson interacting proteins are modifiers of drosophila parkin and Pink1 mutant phenotype
A. Zanon, I. Pichler, A. Rakovic, C. Schwienbacher, C. Weichenberger, F.S. Domingues, A.A. Hicks, P.P. Pramstaller, C. Klein (Bolzano, Italy)

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1525 p62 staining inclusions in an MSA-P phenotype – A new neurodegenerative entity?
N. Akhtar, R. Shafei, J. Lowe, N. Bajaj (Nottingham, United Kingdom)

1526 Hyposmia in Parkinson’s disease
M.V. Alvarez, P. Grogan (San Antonio, TX, USA)

1527 What does tremor lateralization have to do with handedness?
M.V. Alvarez, P. Grogan (San Antonio, TX, USA)

1528 Adapting the Sniffin’ Sticks olfactory test to diagnose Parkinson’s disease in Estonia
E. Antsov, S. Kilk, L. Silveira-Moriyama, L. Kudisnik-Eerme, T. Toomsoo, T. Paju, A. Lees, P. Tab (Tartu, Estonia)

1529 Connectivity patterns derived from resting state fMRI predict bradykininess and rigidity in Parkinson’s disease
S. Appel-Cresswell, N. Baradaran, S.S. Galley, A. Liu, Z.J. Wang, M.J. McKeown (Vancouver, BC, Canada)

1530 R rigidity in Parkinson’s disease is associated with a distributed motor subnetwork
N. Baradaran, S.J. Palmer, A. Liu, Z.J. Wang, M.J. McKeown (Vancouver, BC, Canada)

1531 Preclinical detection of Parkinson’s disease in subjects with REM behavior disorder using eye tracking
M.S. Baron, G.T. Gitchel, S. Raman, W.A. Wetzel (Richmond, VA, USA)

1532 Clinical correlations of nonmotor symptoms in Parkinson’s disease
E.M. Bassetti, C.F. Nogueira, R.R. Sflatis, M.S.G. Rocha (Sao Paulo, Brazil)
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1533 Progressive cortical degeneration in Parkinson’s disease
D. Benninger, J. Dukart, J. von Meyenburg, S. Thees, C. Bassetti, D. Waldvogel, S. Kollias, K. Iseki, B. Draganski (Lausanne, Switzerland)

1534 Measuring functional progression of Parkinson’s disease
R.L. Boehm, Q.J. Almeida (Waterloo, ON, Canada)

1535 Motor symptoms in early stage, old-age onset Parkinson’s disease: A two years follow-up study
P. Bugalho (Lisboa, Portugal)

1536 Gait dysfunction in Parkinson’s disease and normal-pressure hydrocephalus: A comparative study
P. Bugalho, L. Alves, R. Miguel (Lisboa, Portugal)

1537 Recurrent falls in Parkinson’s disease: A narrative review
A.K. Schwarzer, N.N. Allen, C.G. Canning (Lidcombe, Australia)

1538 A systematic review of the occurrence of psychotic features in people with Parkinson’s disease
R. Caslake, A. Emeka, C. Counsell (Aberdeen, United Kingdom)

1539 Apraxia of eyelid opening in Parkinson’s patient with STN-DBS – A novel solution
D.T.M. Chan, C.K.Y. Lau, C.X.L. Zhu, W.S. Poon (Hong Kong, Hong Kong)

1540 Prevalence and characteristics of pain in Korean Parkinson’s disease patients

1541 Non motor symptoms in Parkinson’s disease
S.A. Rodriguez Quiroga, C. Christie, V. Diaz Arangunde, M. Mancuso, T. Arakaki, J. Toibar, N.S. Garretto (Buenos Aires, Argentina)

1542 Fear of falling in Parkinson’s disease
E. Cubo, N. Perez Mariscal, N. Herrera (Burgos, Spain)

1543 Freezing of gait in Parkinson’s disease under virtual reality conditions studied with a novel treadmill system: A pilot trial

1544 Postural stability in Parkinson’s disease – The impact of visual control
B. Czechowicz, M. Boczarska-Jedynak, G. Opala (Katowice, Poland)

1545 Acute decompensation of Parkinson’s disease
V.K. Datieva (Moscow, Russia)

1546 The overall burden of non motor symptoms in Moldavian Parkinson’s disease patients
N. Diaconu, G. Pavlic (Chisinau, Republic of Moldova)

1547 Parkinson’s disease viewed as an acquired archaic nervous system dysfunction: Evidence from comparative anatomy and ethology
N.J. Diedrich, A. Parent (Luxembourg-City, Luxembourg)

1548 Olfactory dysfunction in pathologically confirmed incidental Lewy body disease and Parkinson’s disease
E. Driver-Dunckley, C. Adler, J. Hentz, H. Shill, J. Caviness, M. Sabbagh, V. Evidente, B. Dugger, T. Beach (Scottsdale, AZ, USA)

1549 Glucocerebrosidase mutations influence the natural history of PD in a community-based incident cohort
S. Winder-Rhodes, J.P. Evans, M. Ban, C. Williams-Gray, T. Foiltynie, S. Mason, S. Sawcer, R. Barker (Cambridge, United Kingdom)

1550 Risk factors and course of freezing of gait in Parkinson’s disease: A 12-year population based study
E.B. Forsaas, J.P. Larsen, T. Wentzel-Larsen, G. Alves (Stavanger, Norway)

1551 Asymmetry of gait in parkinsonian patients and its role in the development of freezing
G. Frazzitta, G. Pezzoli, G. Bertotti, G. Riboldazzi, R. Rovesca, R. Maestri (Montescano, Italy)

1552 Etiology of Parkinson’s disease–Quo vadis? Forgotten path of muscle afferents
D. Gobinathan, L. Dosado (Singapore, Singapore)

1553 Dysphagia in de novo drug naive Parkinson’s disease in comparison to advanced PD stages: A videofluoroscopical and clinical study
M. Hahne, B. Leineweber, B. Grewing, W. Jost, H. Reichmann (Bad Neustadt, Germany)

1554 Performance of alternating hand tapping and its relation to gait and postural disturbances in Parkinson’s disease
T. Herman, H. Bernad, N. Giladi, J.M. Hausdorff, M. Plotnik (Tel Aviv, Israel)

1555 On the influence of dopaminergic striatal innervation on upper limb locomotor synergies
I.U. Isaias, J. Volkman, A. Marzegan, G. Marotta, P. Cavallari, G. Pezzoli (Milano, Italy)

1556 Characterization of gait freezing in Parkinson’s disease using a novel foot-sensor based methodology in laboratory and in patients’ homes

1557 Retrocollis develops in the end stage Parkinson’s disease
K. Kashihara, T. Imamuruma, M. Ohno, S. Kawada (Okayama, Japan)

1558 Association between olfactory dysfunction and neuropsychiatric manifestations in Parkinson’s disease (PD)
N. Kawashima, K. Hasegawa, E. Horiuchi, T. Yokoyama, A. Kuman, A. Matsunaga, M. Saito (Fujisawa, Japan)

1559 Quantification of speech impairment in Parkinson’s disease
T. Khan, J. Westin, P. Funk, M. Dougherty (Bolrange, Sweden)

1560 Frozen shoulder and Parkinson’s disease
M. Khara, A.Q. Rana, B. Alenazi, M.A. Rana (Toronto, ON, Canada)

1561 Subthreshold noisy galvanic vestibular stimulation normalizes motor responsiveness to visual error feedback in Parkinson’s disease
D.J. Kim, A. Ashoori, E. Ty, M. Oishi, M.J. McKeown (Vancouver, BC, Canada)

1562 Homozygous parkin gene mutant carrier without definite signs of Parkinson’s disease
B. Koentjoro, J.S. Park, A.D. Ha, C.M. Sue (Sydney, Australia)

1563 The “floating door sign” in Parkinson’s disease (PD)
O.C. Kulkarni, K. Czarnecki, D. Tarsy (Boston, MA, USA)

1564 Is there any relationship between motor fluctuation and the weather in patients with advanced Parkinson’s disease?
R. Kurisaki, Y. Yonemochi, T. Sakamoto, K. Uekawa (Uki, Japan)

1565 Patterns of daily ambulatory activity are different in early Parkinson’s disease compared with controls
S. Lord, A. Godfrey, B. Dalna, D. Burn, L. Rochester (Newcastle upon Tyne, United Kingdom)

1566 Camptocormia (kamptokormia) in patients with Parkinson’s disease – An own subtype of Parkinson’s disease?
S. Lorenzi, K. Bötzel, B. Schoser, G. Nübling (Munich, Germany)

1567 Non-motor symptoms are less prevalent in young-onset Parkinson’s disease
V. Markovic, M. Svetel, T. Pekmezovic, V. Kostic (Belgrade, Serbia)
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**1568** Unexplained lower limb pain syndrome in Parkinson’s disease: A variant of central pain
A. Martin, S. Robinson, M. Parry, A.H.V. Schapira, A. Rizos, C. Clough, K. Ray Chaudhuri (London, United Kingdom)

**1569** Improvement of freezing of gait with amantadine in a patient with oculopharangeal muscular dystrophy and parkinsonism
A. McGarry, K. Biglan (Camden, NJ, USA)

**1570** An observational study of the impact of early versus delayed treatment on quality of life in Parkinson’s disease
D.J.M. McGhee, R. Castlak, C.E. Harris, C.E. Counsell (Aberdeen, United Kingdom)

**1571** Finger tapping ‘off’ performance in Parkinson’s disease is detected by digital signal processing
M. Memedi, J. Westin, D. Nyholm (Falun, Sweden)

**1572** Measuring arm swing during gait in patients with Parkinson’s disease using wearable sensors – A feasibility study
A. Mirelman, J. Peruzzi, E. Gazith, K. Yazinovsky, M. Zelis, N. Giladi, J.M. Haussdorff, M. Plotnik (Tel Aviv, Israel)

**1573** The relationship of motor and non-motor symptoms of apathy in idiopathic Parkinson’s disease
F. Ozer, M. Gurbuz, L. Hanoglou, S. Sitrava-Gunenc, F. Genc, B. Kul (Istanbul, Turkey)

**1574** National Parkinson Foundation Quality Improvement Initiative (NPF-QIP): Risk factors for falls in Parkinson’s disease (PD)
S.A. Parashos, C.L. Wiensinski, on behalf of the NPF QII Investigators (Golden Valley, MN, USA)

**1575** Could pain be a reason for misdiagnosis of Parkinson’s disease?
G. Pavlic, I. Moldovanu (Chisinau, Republic of Moldova)

**1576** Evidence-based virtual reality treadmill system for gait research and rehabilitation of patients with Parkinson’s disease

**1577** Multimodal assessment of vocal cord function in early Parkinson’s disease and essential tremor

**1578** The relationship between Parkinson’s disease severity and posturography
A. Peterson, F. Horak, M. Mancini (Portland, OR, USA)

**1579** Availability of olfactory bulb and olfactory tract in brain specimens in a brain bank

**1580** Baseline findings and Parkinson’s disease prognosis
A.H. Rajput, M.L. Rajput, A.H. Rajput (Saskatoon, SK, Canada)

**1581** Impairment of brain vessels may contribute to mortality in patients with Parkinson’s disease
I. Rektor, D. Goldemund, P. Bednarik, K. Sheardová, Z. Michálková, S. Telečká, M. Dufek, I. Rektorová (Brno, Czech Republic)

**1582** Early morning off periods in Parkinson’s disease: Characterisation of non motor patterns and treatment effect: An international study

**1583** Comparison of clinical and behavioral measures distinguishing and predicting parkinsonian syndromes in REM sleep behavior disorder patients
M. Schiess, Q. Liang, B. Copeland, E. Furr-Stimming, R. Castriotta (Houston, TX, USA)

**1584** Handwriting as an objective tool for Parkinson’s disease diagnosis
I. Schlesinger, M. Samuel, S. Zlotnik, S. Rosenblum (Haifa, Israel)

**1585** Withdrawn by Author

**1586** Abnormalities of voice quality in the course of disease progression in Parkinson’s disease
W. Grönholt, U. Schlegel, S. Skodda (Bochum, Germany)

**1587** Gender differences in motor and non-motor symptoms among Sardinian patients with Parkinson’s disease
P. Solla, A. Cannas, F.C. Ibbas, F. Loi, R. Puddu, M. Corona, G. Orofino, M.G. Marrosu, F. Marrosus (Monsserrato, Italy)

**1588** Cognitive correlates of freezing phenomenon in Parkinson’s disease
E. Stefanova, M. Jecmenica Lukic, F. Agosta, V. Spica, M. Filippi, V. Kostic (Belgrade, Serbia)

**1589** Predictive factors for nonmotor fluctuations in Parkinson’s disease: Results from the NoMoFlu-PD study

**1590** Effect of novel toe stretcher device on foot dystonia in patients with Parkinson’s disease
D.C. Taylor (West Bloomfield, MI, USA)

**1591** Thermal and mechanical pain thresholds in patients with fluctuating Parkinson’s disease
L. Vela, R. Cano de la Cuerda, A. Fil, E. Muñoz-Hellín, Y. Macías Macías, R. Ortiz-Gutierrez, C. Fernandez-de las Peñas (Alcorcon, Spain)

**1592** Relationship between midbrain sonography findings and non-motor symptoms in Parkinson’s disease
S. Kleinschmidt, K. Busse, I. Gemende, F. Rimmelé, R. Benecke, U. Walter (Rostock, Germany)

**1593** Substantia nigra hyperechogenicity is not related to hyposmia or five-year course of hypomia in Parkinson’s disease
K. Busse, S. Kleinschmidt, C. Wunderlich, I. Gemende, R. Benecke, U. Walter (Rostock, Germany)

**1594** Association between the UPDRS and falls and near falls in Parkinson’s disease
S.A. Parashos, C.L. Wiensinski, M.A. Nance, C. Erickson-Davis, S. Lenarz (Golden Valley, MN, USA)

**1595** Visual symptoms in Parkinson’s disease; a patient survey
E.J. Williams, B.L. Kessel (Romsey, United Kingdom)

**1596** The CamPaIGN study of incident Parkinson’s disease: Natural history over the first 10 years
C.H. Williams-Gray, S.L. Mason, J.R. Evans, T. Foltynie, R.A. Barker (Cambridge, United Kingdom)

**1597** Pramipexole-induced camptocormia in Parkinson’s disease: 8 reversible cases
M. Yamamoto, Y. Okuma, T. Maeda, K. Kimura (Takamatsu, Japan)

**1598** Evaluation of videofluoroscopic findings that contribute to aspiration in patients with Parkinson’s disease
T. Yamamoto, M. Murata (Kodaira, Tokyo, Japan)
Certifies that

has attended The Movement Disorder Society’s 16th International Congress of Parkinson’s Disease and Movement Disorders on June 17-21, 2012 in Dublin, Ireland.

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April 19, 2013
Early Registration Deadline

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DaTSCAN™ ioflupane (¹²³I) at reference time.
INDICATIONS Detecting loss of functional dopaminergic neurone terminals in the striatum. If in adult patients with clinically uncertain Parkinsonian syndromes in order to help differentiate Essential Tremor from Parkinsonism related to idiopathic Parkinson’s Disease (PD), Multiple System Atrophy (MSA), Progressive Supranuclear Palsy (PSP), and atypical Parkinsonian Syndromes in order to help differentiate Essential Tremor from Parkinsonian Syndromes related to idiopathic Parkinson’s Disease (PD), Multiple System Atrophy (MSA), Progressive Supranuclear Palsy (PSP) and from Alzheimer’s disease. DaTSCAN is unable to discriminate between DLB and Parkinson’s Disease dementia.
DOSAGE AND METHOD OF ADMINISTRATION Prior to administration appropriate resuscitation equipment should be available. For use in patients referred by physicians experienced in the management of movement disorders/dementia. Clinical efficiency has been demonstrated across the range of 111-185 MBq; do not use outside this range. Appropriate thyroid blocking treatment must be given prior to injection of DaTSCAN. The safety and efficacy of DaTSCAN in children 0 to 18 years has not been established. No data are available in patients with significant renal or hepatic impairment. DaTSCAN should be used without dilution. Slow intravenous injection 15-20 seconds via an arm vein is recommended. SPECT imaging should take place 3-6 hours after injection of DaTSCAN. CONTRAINDICATIONS Pregnancy and hypersensitivity to the active substance or any of the excipients. WARNINGS AND PRECAUTIONS If hypersensitivity reactions occur, the administration of the medicinal product must be discontinued immediately and, if necessary, intravenous treatment initiated. Resuscitative medicinal products and equipment (e.g. endotracheal tube and ventilator) have to be readily available. Radio-pharmaceuticals should only be used by qualified personnel with appropriate government authorization and should be prepared using aseptic and radiological precautions. For each patient, exposure to ionising radiation must be justifiable on the basis of likely benefit. The activity administered must be such that the resulting dose is as low as reasonably achievable bearing in mind the need to obtain the intended diagnostic result. DaTSCAN is unable to discriminate between PD, MSA and PSP in adult patients with clinically uncertain Parkinsonian Syndromes related to idiopathic Parkinson’s Disease (PD), Multiple System Atrophy (MSA), Progressive Supranuclear Palsy (PSP) and from Alzheimer’s disease. DaTSCAN is unable to discriminate between DLB and Parkinson’s Disease dementia.