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C	Aging
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E	Brain imaging/activation during posture and gait
F	Cognitive impairments
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H	Coordination of posture and gait
I	Development of posture and gait
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K	Devices to improve posture and gait
L	Effect of medication on posture and gait
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S	Proprioceptive function and disorders
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U	Robotics
V	Sensorimotor control
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POSTER SESSION 1: JULY 1ST, 2019

P1-A-1 *Monitoring walking activity with wearable technology in rural-dwelling older adults in Tanzania: a feasibility study nested within a frailty prevalence study*

Silvia Del Din¹, Emma Grace Lewis², William Gray², Harry Collin¹, John Kissima³, Lynn Rochester⁴, Catherine Dotchin², Sarah Urasa⁵, Richard Walker²

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P1-A-2 *The impact of freezing of gait in daily life: a wearable sensors approach*

Martina Mancini¹, Vrutangkumar Shah¹, Carolin Curtze², Samuel Stuart¹, Mahmoud El-Gohary³, James McNames⁴, Fay Horak¹, John Nutt¹

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P1-B-3 Targeted familiarization based on user feedback and motor control principles to optimize positive adaptation strategies for learning to walk with a passive load-bearing exoskeleton: a feasibility study

Laurent Bouyer¹, Krista Best², Thomas Karakolis³, Gabriel Diamond-Ouellette⁴, Etienne Lamoureux⁴, Kurt Modie⁵

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P1-B-4 The moving platform illusion in older adults: Effects of the duration of adaptation to a sway-referenced environment on perceptual delays and postural aftereffects

Mihalis Doulmas¹, Laura Coulter¹

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P1-B-5 Foot speed perception during split-belt treadmill adaptation in adults with Parkinson's disease.

Dorelle Hinton¹, Roger Wei¹, David Conradsson², Caroline Paquette¹

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P1-B-6 Influence of smartphone use while walking: the relationship between obstacle avoidance and adaptive walking caused by smartphone use

Sato Ren¹, Kotaro Shimizu¹, Koyuki Nishikawa², Yuriko Kihara³, Kazunari Itou⁴, Keita Tai⁵, Taketo Furuna¹

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P1-B-7 Gait adaptations in response to perturbation treadmill training in Parkinson's disease: Time-course, sustainability and transfer

Simon Steib¹, Sarah Klamroth¹, Gassner Heiko¹, Cristian Pasluosta¹, Bjoern Eskofier¹, Juergen Winkler¹, Jochen Klucken¹, Klaus Pfeifer¹

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P1-B-8 *Task-specific modulation of the soleus H-reflex following a single balance training session*

Craig Tokuno¹, Louis-Solal Giboin², Andreas Kramer², Markus Gruber²

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P1-B-9 *Large errors upon introduction vs. removal of the training environment have distinct effect on the generalization of locomotor adaptation.*

Gelsy Torres-Oviedo¹, Digna de Kam¹, Wouter Staring²

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P1-B-10 *Changes in muscle activation patterns underlie split-belt gait adaptation*

Danique Vervoort¹, Rob den Otter², Tom Buurke², Nicolas Vuillerme³, Tibor Hortobágyi¹, Claudine Lamothe²

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P1-B-11 *Prolonged exposure to height-related threat: adaptation and retention of standing balance outcomes*

Martin Zaback¹, Minh Luu¹, Allan Adkin², Mark Carpenter¹

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P1-C-12 *Two-year change in gait variability in community-living older adults*

Bård Bogen¹, Mona Aaslund¹, Anette Ranhoff¹, Rolf Moe-Nilssen¹

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P1-C-13 *The effects of mechanical and cognitive constraints on beam walking in older adults*

Andréia Abud da Silva Costa¹, Tibor Hortobágyi², Andrew Sawers³, Renato Moraes⁴

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P1-C-14 *Low function based on spatio-temporal gait variables and disability*

Takehiko Doi¹, Sho Nakakubo¹, Kota Tsutsumimoto¹, Minji Kim¹, Satoshi Kurita¹, Hideaki Ishii¹, Hiroyuki Shimada¹

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P1-C-15 *Age-related differences in lower limb joint moments during turning gait*

Yuto Fukuda¹, Takeshi Yamaguchi¹

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P1-C-16 *"COgnitive and Motor interaction in Older populatioNs (ComOn)" - A prospective multi-center study for quantitative evaluation of treatment effectiveness in 1000 geriatric patients with cognitive and motor deficits*

Johanna Geritz¹, Sara Maetzold¹, Andrea Pilotto², Marta Corrà³, Mariana Morscovich⁴, Maria Rizzetti⁵, Barbara Borroni², Alessandro Padovani², Annkathrin Alpes¹, Corinna Bang¹, Igor Barcellos⁴, Ralf Baron¹, Thorsten Bartsch¹, Jos Becktepe¹, Daniela Berg¹,

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P1-C-17 *Specific gait measures predict cognitive decline in highly educated older adults*

Elissa Ash¹, Tali Ben Porat², Odelia Elkana¹, Natalie Ganz¹, Jeff Hausdorff¹

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P1-C-18 *Medical, sensorimotor and cognitive factors associated with gait variability: a longitudinal population-based study*

Oshadi Jayakody¹, Monique Breslin¹, Velandai Srikanth², Michele Callisaya¹

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P1-C-19 *Power spectral changes in ankle plantar flexors in people with Parkinson's during walking - implications for gait?*

Annette Pantall¹, Othello Cope¹, Shu En Lee¹, Silvia Del Din¹, Lisa Alcock¹

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P1-C-20 *Fat mass index and the performance of older people in the 6-minute walking test*

Tatiane Pontes¹, Fernanda Pessanha², Renato Freire Júnior¹, Natália Alves², Karina Pfrimer², Priscila Fassini², Eduardo Ferriolli²

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P1-C-21 *Postural stability during reaching-to-grasping while standing in young adults and older adults with and without a history of falls*

Natalia Rinaldi¹, Renato Moraes²

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P1-C-22 *Changes in Achilles tendon reflex strength during quiet standing with age*

Margot Schmidt¹, Robyn Mildren¹, Gregg Eschelmuller¹, Jean-Sebastien Blouin¹, Mark Carpenter¹, J. Timothy Inglis¹

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P1-C-23 *Biomechanical balance control in older adults: a systematic review and meta-analysis*

Pieter Meyns¹, Lotte Palmers¹, Sander Verbeek¹, Joke Spildooren¹

¹Hasselt University

P1-C-24 *PreventIT feasibility RCT: Improving physical function in older age by changing people's habits in daily life*

Kristin Taraldsen¹, A.Stefanie Mikolaizak², Andrea Maier³, Elisabeth Boulton⁴, Kamiar Aminian⁵, Clemens Becker², Sabato Mellone⁶, Chris Todd⁴, Mirjam Pijnappels³, Beatrix Vereijken⁷, Jorunn Helbostad⁷

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P1-D-25 *The role of limb length and stature in the transition from walking to running*

Kristen Hollands¹, Niamh Gill¹, Anmin Liu¹, Dale Walker¹, Andrew Roberts², Thomas O'Leary², Julie Greeves², Richard Jones¹

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P1-D-26 *Virtual reality training affects joint angle strategies which correlate with safer real-world obstacle crossing*

Chanel LoJacono¹, Michael Kress¹, Christopher Rhea¹

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P1-D-27 *Excessive arm swings and asymmetric walking lead to more variability in the trunk kinematics*

Cézar Mezher¹, Allen Hill¹, Tarique Siragy¹, Julie Nantel¹

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P1-D-28 *Plantar pressures and muscle activity of normal and pes planus foot postures wearing different footwear during treadmill walking*

Katrina Protopapas¹, Stephen Perry¹

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P1-D-29 *Sagittal balance control during perturbed walking*

Maud van den Bogaart¹, Sjoerd Bruijn², Jaap van Dieën², Pieter Meyns³

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P1-E-30 *Mapping the cortical representation of lower-limb muscles using transcranial magnetic stimulation*

Jennifer Davies¹

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P1-E-31 *Reduced weight-shifting skills during single- and dual-task conditions are accompanied by altered neural activation in ageing*

Veerle de Rond¹, Diego Orcioli-Silva², Lynn Rochester³, Jean-Jacques Orban de Xivry¹, Annette Pantall⁴, Alice Nieuwboer¹

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P1-E-32 *Postural state modulation of reactive balance control*

Mark Laylor¹, Paula Polastri², Jessy Varghese¹, William McIlroy¹

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P1-E-33 *Functional interplay between body sway and parieto-premotor network revealed by somatosensory potentials evoked by foot sole stimulation and microneurography*

Laurence Mouchnino¹, Marie Fabre¹, Edith Ribot-Ciscar¹, Rochelle Ackerley¹, Jean-Marc Aimonetti¹, Pascale Chavet¹, Jean Blouin¹, Martin Simoneau²

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P1-E-34 *An exploratory in vivo voxel-based PET analysis of cholinergic correlates of postural sway variability in Parkinson disease*

Martijn Muller¹, Uros Marusic², Prabesh Kanel¹, Nicolaas Bohnen¹

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P1-E-35 *Neural correlates of body dynamics*

Nicholas Murray¹, Gustavo Sandri Heidner¹, Caitlin O'Connell¹, Chris Mizelle¹, Zac Domire¹

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P1-E-36 *Evidence for an alternate neural control in freezing of gait during complex walking*

Trina Mitchell¹, Trina Mitchell¹, Alexandra Potvin-Desrochers¹, Anne-Louise Lafontaine¹, Oury Monchi², Alexander Thiel¹, Caroline Paquette¹

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P1-E-37 *A brainstem, subcortical and cortical network for dynamic balance control in healthy older adults*

Elizabeth Pasman¹, Martin McKeown¹, Saurabh Garg¹, Taylor Cleworth², Bastiaan Bloem³, J Timothy Inglis¹, Mark Carpenter¹

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P1-E-38 *Functional near-infrared imaging of the temporo-parietal junction during vestibular rotational stimulation*

Patrick Sparto¹, Theodore Huppert¹, Helmet Karim¹, Joseph Furman¹

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P1-E-39 *Understanding the hemodynamic response and sensory contribution to automatic postural control*

Gabrielle St-Amant¹, Tabassum Rahman¹, Nadia Polskaia¹, Sarah Fraser¹, Yves Lajoie¹

¹University of Ottawa

P1-E-40 *Structural neural correlates of independent gait characteristics in Parkinson's disease*

Joanna Wilson¹, Brook Galna¹, Sue Lord², Alison Yarnall¹, Rachael Lawson¹, Gordon Duncan³, Tien Khoo⁴, David Burn¹, Lynn Rochester⁵, John-Paul Taylor¹

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P1-F-41 *Step-length changes caused by a dual-task test among individuals undergoing memory assessment - a pilot study*

Anna Cristina Åberg¹, Fredrik Tinmark², Lars Berglund¹, Kjartan Halvorsen¹, Vilmantas Giedraitis¹

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P1-F-42 *Comparison in postural sway between healthy control and mild cognitive impaired group with dual tasks*

Junggil Kim¹, Jin Soo Lee¹, Jeong Woo Seo¹, Jinseong Choi¹, Gye Rae Tack¹

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P1-F-43 *Is gait variability a biomarker of neurodegenerative disorders?*

Manuel Montero Odasso¹, Yanina Sarquis-Adamson¹, Natalie Ravid², Quincy Almeida³, Frederico Pieruccini-Faria¹, Kerry Howell², Richard Camicioli²

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P1-F-44 *The association between spatial navigation and physical function in memory clinic patients.*

Gro Tangen¹, Anne-Brita Knapskog², Elisabeth Telenius¹, Geir Selbæk¹, Kristin Taraldsen³

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P1-G-45 *Effects of concussion history on centre of pressure during static dual-tasking in collegiate athletes*

Kelsey Bryk¹, Jaclyn Caccese¹, Katherine Hunzinger¹, Thomas Buckley¹

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P1-G-46 *Does it matter where you look during obstacle crossing?*

HyeYoung Cho¹, Nathaniel Romine¹, Fabio Barbieri², Shirley Rietdyk¹

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P1-G-47 *The influence of social anxiety on balance and walking task assessment in older women*

Diego Orcioli-Silva¹, Elizabeth Pasman², Lilian Gobbi¹, Mark Beauchamp², Mark Carpenter²

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P1-G-48 *Lateropulsion is common after right hemisphere stroke, strongly related to spatial neglect, and the primary cause of mobility limitation*

Dominic Pérennou¹, Shenhao Dai², Emmauelle Clarac², Andréa Kistner², Patrice Davoine², Anne Chripin², Marie Jaeger², Olivier Detante², Marc Hommel², Monica Baciú², Céline Piscicelli¹

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P1-G-49 *Using virtual reality to safely increase mobility-related anxiety when turning in simulated environments*

Tiphanie Raffegeau¹, Mindie Clark¹, Bradley Fawver¹, William Young², Mark Williams¹, Keith Lohse¹, Peter Fino¹

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P1-G-50 *Does postural threat influence the StartReact effect in a lateral stepping task?*

Vivian Weerdesteyn¹, Milou Coppens¹, Tim Inglis², Mark Carpenter²

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P1-G-51 *Dual task gait interference in Parkinson's disease: the impact of baseline cognitive capacity*

Rosie Morris¹, Ellen Lirani-Silva², Rachael Lawson³, Alison Yarnall³, Brook Galna³, Sue Lord⁴, Lynn Rochester⁵

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P1-G-52 *The multiscale dynamics of resting-state brain activity is associated with the performance of dual task standing postural control in older adults*

Junhong Zhou¹, Laura Dubreuil Vall², Brad Manor¹, Giulio Ruffini²

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P1-H-53 *Combined diabetes and arthritis are associated with declined gait speed*

Bader Alqahtani¹, Aqeel Alenazi¹, Mohammed Alshehri²

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P1-H-54 *Healthy young adults use vision for postural control similarly at low and high virtual heights*

Eric Anson¹, Nicole Kuznetsov¹, Raul Rodriguez¹, Kyle Critelli¹, Benjamin Crane¹

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P1-H-55 *Body sway is mediated by vestibular cortical dominance*

Adolfo Bronstein¹, Patricia Castro¹, Diego Kaski², Hussein Al-Fazly¹, Deniz Ak¹, Liam Oktay¹, Qadeer Arshad¹

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P1-H-56 *Postural balance at children survived after posterior fossa tumor*

Dmitry Skvortsov¹, Anna Dreneva², Vladimir Kasatkin³, Alexander Karelin³

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P1-H-57 *Full body responses in visually perturbed quiet stance*

David Engel¹, Adrian Schütz¹, Frank Bremmer¹

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P1-H-58 *Balance mechanisms differ across cadences on a self-paced treadmill*

Tyler Fettrow¹, David Grenet¹, Hendrik Reimann¹, Ian Sotnek¹, Elizabeth Kaye¹, Maelyn Arcodia¹, John Jeka¹

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P1-H-59 *The ability to switch from a trail limb avoidance to a lead limb accommodation strategy*

Félix Fiset¹, Bradford McFadyen¹

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P1-H-60 *Specificity of trunk postural responses to three-dimensional surface stimuli*

Adam Goodworth¹, Cody Barrett², Jonathan Rylander², Brian Garner²

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P1-H-61 *The effects of intensive balance training in individuals with chronic spinal cord injury on quiet standing centre of pressure measures*

Olinda Habib Perez¹, Janelle Unger², Katherine Chan¹, Jae Lee², Kei Masani², Kristin Musselman²

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P1-H-62 *Arm swing and gait symmetry affects gait stability and interlimb coordination*

Allen Hill¹, Julie Nantel¹

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P1-H-63 *Kinesiological study for normal walking gait on irregular surface*

Kenta Igarashi¹, Koichi Koganezawa¹

¹Tohoku University

P1-H-64 *Effects of Dance for Parkinson's on gait and dual-task gait in Parkinson's disease assessed using Vicon 3D-motion capture*

Nadeesha Kalyani¹, Karen Sullivan¹, Gene Moyle¹, Sandy Brauer², Erica Rose Jeffrey³, Graham Kerr¹

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P1-H-65 *Gross and fine balance control during walking in stroke patients and healthy controls*

Noel Keijsers¹, Yara Luijten¹, Bart Nienhuis¹

¹Sint Maartenskliniek

P1-H-66 *Effects of freezing joint degrees of freedom on dynamic postural balancing*

Kentaro Kodama¹, Kazuhiro Yasuda², Hideo Yamagiwa³

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P1-H-67 *Ankle and hip joint coordination during quiet standing for individuals with incomplete spinal cord injury*

Jae Lee¹, Angela (Jaeun) Yoo², Katherine Chan³, Janelle Unger¹, Kristin Musselman¹, Kei Masani¹

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P1-H-68 *Variability of gait, bilateral coordination in unilateral vestibular loss patients*

HWAN HO LEE¹

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P1-H-69 *Walking through an aperture while penetrating from the paretic side reduces the rate of collision for stroke individuals*

Daisuke Muroi¹, Yutaro Saito¹, Aki Koyake¹, Takahiro Higuchi²

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P1-H-70 *Feasibility of visual cues to promote walking turns in Parkinson's disease*

Rebecca Reed-Jones¹, Tyler Baker¹, Jenna Pitman²

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P1-H-71 *Haste makes waste: on the trade-off between walking speed and target-stepping accuracy*

Melvyn Roerdink¹, Daphne Geerse¹, Lieke Peper¹

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P1-H-72 *Influence of body weight supported treadmill training parameters on muscle coordination in hemiparetic walking*

Bryant Seamon¹, Shraddha Srivastava¹, Richard Neptune², Lindsay Perry³,Carolynn Patten⁴, Steven Kautz¹

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P1-H-73 *Comparative characteristics of obstacle avoidance strategy in young and older adults in various walking conditions*

Kotaro Shimizu¹, Yuriko Kihara², Koki Iwata¹, Takahiro Higuchi³, Taketo Furuna¹

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P1-H-74 *Does discrete versus cyclic full body reaching tasks influence hip and spine excursions?*

James Thomas¹

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P1-I-75 *The development of running in children*

Margit Bach¹, Francesco Menna², Andreas Daffertshofer¹, Nadia Dominici¹

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P1-I-76 *Evaluation of balance in adolescent idiopathic toe walkers*

Marybeth Grant-Beuttler¹, R. Caprice Hollandsworth¹, Shweta Chheda¹, Richard Beuttler¹, Afshin Aminian², Rahul Soangra¹

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P1-I-77 *Reactive and anticipatory postural response mechanisms during continuous platform oscillation in children and adolescents*

Richard Mills¹, Heidi Sveistrup²

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P1-I-78 *Children's walking in complex environments: one step at a time?*

Rachel Mowbray¹, Janna Gottwald², Manfei Zhao¹, Anthony Atkinson¹, Dorothy Cowie¹

¹Durham University, ²Uppsala University

P1-I-79 *Inertial sensor based normative postural sway parameters in typically developing children and young adults*

Joan O'Keefe¹, Alexandra Palmer¹, Rachel Tracy¹, Stephanie Voss¹, Medha Parulekar¹, Caitlin Bailey¹,
Nicollette Purcell¹, Elizabeth Berry-Kravis¹

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P1-I-80 *Inertial sensor based normative spatiotemporal gait and Timed Up and Go parameters in typically developing children and young adults*

Joan O'Keefe¹, Stephanie Voss¹, Rachel Tracy¹, Alexandra Palmer¹, Medha Parulekar¹, Nicollette Purcell¹,
Marie Fefferman¹, Elizabeth Berry-Kravis¹

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P1-I-81 *Minimum Predicted Distance: applying a common metric to collision avoidance strategies between typically developing children and adult walkers*

Victoria Rapos¹, Michael Cinelli¹, Natalie Snyder¹, Armel Crétual², Anne-Hélène Olivier²

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P1-I-82 *Experimental study of biomechanics of "military crawl" locomotion, pilot study*

Dmitry Skvortsov¹, Alina Aisenshtein², Vladimir Kasatkin³, Anatoliy Shipilov², Victor Anisimov²

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P1-J-83 *Effects of saccadic eye movements on postural stabilization in dyslexic children*

Jose Barela¹, Newton Tesima², Vitor Amaral³, Ana Barela³

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P1-J-84 *Effects of neutralization of symmetry of the Maxwell spot on postural control in children with dyslexia. Clinical cases report*

Emmanuelle Pivron Braquet¹, Marc Janin², Alix Couvrat³, Claire Carraurer³, Lucie Pirodeau³, Marina Vincent³, Marion Miral³, Sophie Richer de Forge³, Tipahaine Dreillard³, Valerie Riviere³, Benoit Maille³, Nicolas Imbert³, Briskmann Didier³

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P1-J-85 *The Kids-BESTest of postural control predicts gross motor coordination in primary school children with and without coordination difficulties.*

Leanne Johnston¹, Gemma Allinson¹, Breanna Raatz¹, Rosalee Dewar¹, Sally Hannah¹

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P1-J-86 *Developmental Coordination Disorder co-occurs at high rates among children and adolescents with Autism Spectrum Disorder*

Haylie Miller¹, Gabriela Sherrod², Priscila Caçola³

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P1-J-87 *Effect of orthopaedic shoes and orthopaedic insoles on gait in patients with Dravet syndrome*

Lore Wyers¹, Karen Verheyen¹, Berten Ceulemans², An-Sofie Schoonjans¹, Kaat Desloovere³, Patricia Van de Walle¹, Ann Halleman¹

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P1-K-88 *Improvements in balance control for multiple sclerosis patients with vibro-tactile biofeedback of trunk sway*

John Allum¹, Christel Schouenborg², Bettina Fischer-Barnicol¹, Venessa Haller¹, Nathanael Lutz², Heiko Rust³, Oezguer Yaldizli¹

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P1-K-89 *Avoiding 3D holographic obstacles: Does it differ from negotiating real obstacles?*

Bert Coolen¹, Daphne Geerse¹, Melvyn Roerdink¹

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P1-K-90 *Evaluating the efficacy of a novel therapeutic tool for standing balance after spinal cord injury: A case series*

David Houston¹, Jae Lee², Emerson Grabke³, Angela (Jaeun) Yoo³, Kai-Lon Fok³, Janelle Unger², Kei Masani², Kristin Musselman²

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P1-K-91 *Design improvement and clinical assessment of personal standing mobility Qolo for voluntary sit-to-stand posture transition of persons with thoracic level spinal cord injury*

Hideki Kadone¹, Yukiyo Shimizu¹, Shigeki Kubota¹, Diego Paez¹, Yasushi Hada¹, Masashi Yamazaki¹, Kenji Suzuki¹

¹University of Tsukuba

P1-K-92 *Effects of sensory augmentation activation thresholds on balance performance in people with vestibular disorders*

Tian Bao¹, Catherine Kinnaird¹, Wendy Carender¹, Kathleen Sienko¹

¹University of Michigan

P1-K-93 *Staying UpRight in Parkinson's disease: a novel postural intervention*

Samuel Stuart¹, Alan Godfrey², Lynn Rochester³, Fay Horak¹, Martina Mancini¹

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P1-K-94 *Gait variability decreases with use of carbon fiber footplates in children with idiopathic toe walking*

Srikant Vallabhajosula¹, Melissa Scales¹

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P1-K-95 *Treadmill training in a virtual environment improves gait and balance in patients with incomplete spinal cord injury*

Rosanne van Dijsseldonk¹, L.A.F. de Jong², B.E. Groen², M. Vos-van der Hulst², A.C.H. Geurts³, N.L.W. Keijsers²

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P1-L-96 *Botulinum toxin injection to the upper limb may indirectly improve gait in patients with post-stroke spasticity- an open-label prospective pilot study*

Shani Kimel Naor¹, Oren Cohen², Elizabeta Shprints³, Sharon Hassin-Baer¹, Yael Dotan-Marom¹, Gilad Yahalom¹, Oleg Marzeliak¹, Lilach Ephraty¹, Hanna Strauss¹, Rivka Inzelberg⁴, Meir Plotnik¹

¹Sheba Medical Center, ²Tel-Aviv University, ³Technion, Technological Institute of Israel, ⁴Tel Aviv University

P1-L-97 *Evaluation of adult cerebral palsy gait with spasticity of gluteus medius anterior fibers before and after local treatment with botulinum toxin*

Philippe Thoumie¹, Florence Babany¹

¹Hospital Rothschild APHP Sorbonne University

P1-M-98 *Evaluation of measurement properties of the instrumented and repeated Timed Up and Go (5iTUG)*

Ronny Bergquist¹, Corinna Nerz², Kristin Taraldsen¹, Clemens Becker², Sabato Mellone³, Beatrix Vereijken⁴, Jorunn Helbostad⁴, Stefanie Mikolaizak²

¹Norwegian University of Science and Technology, ²Robert-Bosch-Krankenhaus, ³University of Bologna, ⁴The Norwegian University of Science and Technology (NTNU)

P1-M-99 *Controlling the uncontrollable - perceptions of balance in people with Parkinson's disease*

Hanna Johansson¹, Erika Franzén¹, Kirsti Skavberg Roaldsen¹, Maria Hagströmer¹, Breiffni Leavy¹

¹Karolinska Institutet

P1-M-100 *Athletes adopt different control strategies compared to non-athletes with increased postural demands*

Jenna Pitman¹, Rhianna Malcolm¹, David Shulman¹, Becky Breau¹, Michael Cinelli², Lori Ann Vallis¹

¹University of Guelph, ²Wilfrid Laurier University

P1-M-101 *Could lifestyle-integrated exercise interventions change physical activity behavior of young older adults?*

Gaelle Prigent¹, Anisoara Ionescu¹, Wei Zhang¹, Kristin Taraldsen², Beatrix Vereijken³, Jorunn L. Helbostad³, Kamiar Aminian¹

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P1-M-102 *Predicting physical activity in obese and normal weight older adults based on cognitive and physical function*

Noah Rosenblatt¹, Sai Yalla¹

¹Rosalind Franklin University of Medicine and Science

P1-M-103 *Posture of lunge motion during a shuttle sprint test in soft tennis elite players*

Hidenori Shinohara¹, Koji Kawakami², Kazutaka Takahashi³, Ayane Ogura⁴, Kenji Takahashi⁵, Hirofumi Ida⁴

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P1-N-104 *Comparing muscle power and muscle strength training using Thera-band for reducing fall risk in community-dwelling older adults*

Kenneth Cheng¹, Kim Chan¹

¹Chinese University of Hong Kong

P1-N-105 *Is there an optimal recovery step landing range to prevent backward fall from slips: Evidence from large-scale overground slips*

Tanvi Bhatt¹, Shuaijie Wang¹, Yiru (Emma) Wang¹

¹University of Illinois at Chicago

P1-N-106 *Towards tailored fall prevention: identifying modifiable risk factors in older people*

Femke Hulzinga¹, Kimberley Van Schooten², Kim Delbaere²

¹KU Leuven, ²Neuroscience Research Australia

P1-N-107 *Falls in a longitudinal Parkinson's disease cohort: What can we learn from baseline gait assessment in non-fallers over six years?*

Heather Hunter¹, Lisa Alcock², Sue Lord³, Rosie Morris⁴, Lynn Rochester⁵, Alison Yarnall²

¹Newcastle-upon-Tyne Hospitals NHS Foundation Trust, ²Newcastle University, ³Auckland University of Technology, ⁴Oregon Health & Science University, ⁵Institute of Neuroscience, Newcastle University

P1-N-108 *Motoric Cognitive Risk syndrome, falls incidence and trajectory of gait and cognitive change in an octogenarian cohort: Te Puawaitanga o Nga Tapuwae Kia Ora Tonu, LiLACS NZ*

Sue Lord¹, Simon Moyes², Ruth Teh², Waiora Port², Marama Muru-Lanning², Catherine Bacon², Tim Wilkinson³, Ngaire Kerse²

¹Auckland University of Technology, ²University of Auckland, ³Otago University

P1-N-109 *Increasing plantar somatosensory performance on the one leg stance test in elderly*

Emmanuelle Pivron Braquet¹, Marc Janin²

¹PODOLOGUE, ²Université de Pau et des pays L'adour

P1-N-110 *Aggressive proactive balance training using a multi-directional harness system and adapted video gaming: a case series*

M Ann Reinthal¹, Debbie Espy¹, Lorenzo Bianco¹, John DeMarco¹, Emily Punchak¹

¹Cleveland State University

P1-N-111 *Effect of the rate of change of an external balance perturbation*

Thomas Robert¹, Marine Guinamard¹, Pascal Chabaud¹, Laurence Cheze¹, Marie-Laure Mille²

¹Université de Lyon, ²Aix Marseille Université

P1-N-112 *Administration and scoring procedures for performance-based clinical balance tests do not accommodate practice effects among lower limb prosthesis users*

Andrew Sawers¹, Brian Hafner²

¹University of Illinois at Chicago, ²University of Washington

P1-N-113 *Kinematic analysis of videos of real-life falls in older adults using Kinovea software*

Nataliya Shishov¹, Karam Elabd¹, Vicki Komisar¹, Stephen Robinovitch¹

¹Simon Fraser University

P1-N-114 *Dynamic stability measures respond uniquely to destabilization during asymmetric walking*

Tarique Siragy¹, Julie Nantel¹

¹University of Ottawa

P1-N-115 *Total knee replacement patient's preoperative time to recovery expectations are related to fall risk*

Brian Street¹

¹California State University, Bakersfield

P1-N-116 *Posturography differences between recurrent and non-recurrent fallers*

Kyra Twohy¹, Vinayak Vijayan¹, Kimberly Bigelow¹

¹University of Dayton

P1-N-117 *An examination of muscle quality, functional test performance and fall risk in "young-old" women: A pilot study*

Jodi Ventre¹, Christopher Morse², David Tomlinson², Chesney Craig²

¹Miss, ²Manchester Metropolitan University

P1-N-118 *Treadmill gait-slip training in healthy community-dwelling older adults: Mechanisms of within trial adaptation for a progressive ascending-and-mixed intensity protocol*

Yiru Wang¹, Shuaijie Wang¹, Anna Lee¹, Clive Pai², Tanvi Bhatt¹

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P1-N-119 *The effects of time-pressure on adaptive gait in individuals with and without central vision loss*

Tjerk Zult¹, Matthew Timmis¹, Jonathan Allsop², Shahina Pardhan¹

¹Anglia Ruskin University, ²Royal Air Force College Cranwell

P1-O-120 *Instrumenting gait and balance assessment at home and in the community; exploratory data from the ACTIVATE feasibility study*

Christopher Buckley¹, Silvia Del Din¹, Patrica McCue¹, Heather Hunter², Sue Lord³, Chris Price¹, Lisa Shaw¹, Helen Rogers¹, Lynn Rochester⁴, Sarah Moore¹

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P1-O-121 *Targeted transcranial electric stimulation mitigates the dual task cost to gait speed in older adults*

Brad Manor¹, Junhong Zhou¹, On-Ye Lo¹, Alexa Ludington¹, Racheli Katz², Marina Brozgol², Pablo Cornejo Thumm², Jeff Hausdorff²

¹Harvard Medical School, ²Tel Aviv Sourasky Medical Center

P1-O-122 *Perturbation Induced Stepping in Stroke: a way to use the more involved leg*

Katherine Martinez¹, Mary Blackinton², M. Samuel Cheng², Mark Rogers³, Marie-Laure Mille⁴

¹Northwestern University Feinberg School of Medicine, ²Nova Southeastern University, ³University of Maryland, ⁴Aix Marseille Université

P1-O-123 *The effect of an exergame intervention on clinical balance scales in children with cerebral palsy: preliminary results from two non-randomized trials.*

Pieter Meyns¹, Ian Blanckaert², Chloé Bras³, Jaap Harlaar⁴, Laura van de Pol³, Frederik Barkhof³, Hilde Van Waelvelde², Annemieke Buizer³

¹Hasselt University, ²Ghent University, ³Amsterdam UMC, Vrije Universiteit Amsterdam, ⁴Delft University of Technology

P1-O-124 *How do spatiotemporal gait parameters change from the acute phase to 3 months later following a stroke?*

Ole Petter Norvang¹, Torunn Askim¹, Anne Eitrem Dahl², Pernille Thingstad¹

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P1-O-125 *Robotic intervention improves lateral gait symmetry in acute post-stroke patients*

Chun Kwang Tan¹, Hideki Kadone¹, Hiroki Watanabe¹, Aiki Marushima², Yasushi Hada¹, Masashi Yamazaki¹, Yoshiyuki Sankai¹, Kenji Suzuki¹

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P1-P-126 *Collision avoidance between walkers with a twist: strategies for curvilinear and rectilinear paths*

Sean Lynch¹, Richard Kulpa¹, Laurentius Meerhoff², Anthony Sorel¹, Julien Pettré², Anne-Hélène Olivier³

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P1-P-127 *Identification of gait characteristics for early diagnosis of Parkinson's disease with machine learning*

Rana Zia UR Rehman¹, Silvia Del Din¹, YU Guan¹, Jian Qing Shi¹, Lynn Rochester²

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P1-Q-128 *Influence of mild impairment of Parkinson's disease on gait initiation*

Ana Barela¹, Giovanna Machado¹, Douglas Russo-Junior¹, Flávia Doná², Henrique Ferraz², Jose Barela³

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P1-Q-129 *The habituation of postural responses to perturbations is delayed in people with Parkinson's disease*

Victor Beretta¹, Mark Carpenter², Fabio Barbieri¹, Paulo Cezar Santos¹, Diego Orcioli-Silva¹, Marcelo Pereira¹, Lilian Gobbi¹

¹São Paulo State University (UNESP), ²University of British Columbia

P1-Q-130 *Perception of verticality correlates with postural and balance deficits in patients with Parkinson disease.*

Gaia Bonassi¹, Laura Mori¹, Martina Putzolu¹, Chiara Ponte¹, Alessandro Botta¹, Giovanna Lagravinese¹, Laura Avanzino¹, Elisa Pelosin¹

¹University of Genoa

P1-Q-131 *Repetitive head impacts do not impair single task gait in collegiate ice hockey players*

Thomas Buckley¹, Melissa DiFabio¹, Jessie Oldham², Katherine Breedlove³, Curtis Johnson¹

¹University of Delaware, ²Boston Children's Hospital, ³University of Michigan

P1-Q-132 *Cholinergic upregulation in dorsomedial thalamus prior to conversion to freezing of gait in Parkinson's disease*

Nicholas D'Cruz¹, Martijn Muller², Prabesh Kanel², Alice Nieuwboer¹, Nico Bohnen²

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P1-Q-133 *Turning velocity and coordination in multiple sclerosis*

Brian Loyd¹, Grace Hunt¹, Annie Fangman¹, Peter Fino¹, Lee Dibble¹

¹University of Utah

P1-Q-134 *The neural correlates of motor imagery of mediolateral dynamic balance in Parkinson's disease*

Bauke Dijkstra¹, Moran Gilat¹, Sabine Verschueren¹, Alice Nieuwboer¹

¹KU Leuven

P1-Q-135 *Effect of dopamine on mediolateral dynamic balance in Parkinson's disease and freezing of gait*

Moran Gilat¹, Bauke Dijkstra¹, Alice Nieuwboer¹

¹KU Leuven

P1-Q-136 *Effects of perturbation-based balance training on balance, gait and balance confidence in subacute persons with stroke: a randomized controlled trial*

Shirley Handelzalts¹, Michal Kanner-Furman¹, Ganit Gray¹, Nachum Soroker², Itshak Melzer¹

¹Ben-Gurion University, ²Loewenstein Rehabilitation Hospital

P1-Q-137 *The effect of combined transcutaneous direct current stimulation and locomotor training on spinal excitability in an individual with chronic spinal cord injury*

Kelly Hawkins¹, Lou DeMark², Arian Vistamehr², Geneva Tonuzi², David Fuller¹, David Clark³, Emily Fox⁴

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⁴University of Florida; Brooks Rehabilitation

P1-Q-138 *The differences in sagittal plane whole-body angular momentum during gait between patients with hemiparesis and healthy people*

Keita Honda¹, Yusuke Sekiguchi¹, Takayuki Muraki¹, Shin-Ichi Izumi¹

¹Tohoku University

P1-Q-139 *Unravelling quantitative measures of free-living ataxic gait in cerebellar patients using wearable sensors*

Winfried Ilg¹, Jens Seemann¹, Matthis Synofzik¹

¹Hertie Institute for Clinical Brain Research

P1-Q-140 *Can transcranial direct current stimulation improve gait initiation in individuals with Parkinson's disease?*

Jonathan Lommen¹, Anthony Carlsen¹, Julie Nantel¹

¹University of Ottawa

P1-Q-141 *Electromyographic profiles of gait initiation in people with Parkinson's disease: the effects of external sensory cueing*

Colum MacKinnon¹, Lesley Perg¹, Chiahao Lu¹, Matthew Petrucci¹, Abigail Kohut-Jackson¹, Paul Tuite¹, Sommer Amundsen Huffmaster¹

¹University of Minnesota

P1-Q-142 *The effects of obstacle size and timing on prefrontal cortex activation in patients with Parkinson's disease*

Inbal Maidan¹, Topaz Sharon¹, Ilan Kurz², Hagar Bernad-Elazari¹, Shiran Shustak¹, Ira Galperin¹, Anat Mirelman¹, Jeff Hausdorff¹

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P1-Q-143 *Post-stroke walking characteristics on association between motor paralysis and walking speed by cluster analysis*

Naomichi Mizuta¹, Yusaku Takamura¹, Shintaro Fujii¹, Naruhito Hasui¹, Tomoki Nakatani², Masako Tsutsumi², Junji Taguchi², Shu Morioka³

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P1-Q-144 *Reweighting of sensory information during gait in Parkinson's disease*

Marcelo Pereira¹, Quincy Ameida², Lilian T. Gobbi³

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P1-Q-145 *Brain functional connectivity changes associated to freezing of gait in Parkinson's disease*

Alexandra Potvin-Desrochers¹, Trina Mitchell¹, Thomas Gisiger¹, Caroline Paquette¹

¹McGill University

P1-Q-146 *Occupational therapy intervention to improve the quality of life of client with Friedreich's Ataxia- A case study of complete rehabilitation from complete dependency to living independently*

Deepa Pradhan¹

¹Mumbai University

P1-Q-147 *Can saccadic eye movements minimize the deleterious effect of ankle muscle fatigue on postural control in people with Multiple Sclerosis?*

Felipe Santinelli¹, Emerson Sebastião², Fabiana Silva¹, Gabriel Moretto¹, Luiz Felipe Imaizumi¹, Lucas Simieli¹, Richard Van Emmerik³, Fabio Barbieri¹

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P1-Q-148 *Adaptive capacity to split-belt treadmill walking of people with Parkinson's disease with freezing of gait*

Jana Seuthe¹, Nicholas D'Cruz², Pieter Ginis², Burkhard Weisser¹, Alice Nieuwboer², Christian Schlenstedt¹

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P1-Q-149 *Dual task gait cost in Parkinson's disease patients with and without depressive symptoms*

Carolina Silveira¹, Frederico Pieruccini-Faria², Eric Roy³, Quincy Almeida⁴

¹Lawson Health Research Institute, ²University of Western Ontario, ³University of Waterloo, ⁴Wilfrid Laurier University

P1-Q-150 *Automatic detection of Bradykinesia in Parkinson's disease*

Elke Warmerdam¹, Gerhard Schmidt², Clint Hansen¹, Walter Maetzler¹, Rana Zia Ur Rehman³

¹Christian-Albrechts-University of Kiel, ²Kiel University, ³Newcastle University

P1-Q-151 *Non-Invasive Vagus Nerve Stimulation: A non-pharmacological approach to target gait impairment in Parkinson's disease?*

Alison Yarnall¹, Rosie Morris², John-Paul Taylor¹, Mark Baker¹, Lynn Rochester³

¹Newcastle University, ²Oregon Health & Science University, ³Institute of Neuroscience, Newcastle University

P1-Q-152 *Using analogies to overcome freezing of gait: a first step towards making the first step*

William Young¹, Amy Maslivec¹, Anna Fielding¹, Mark Wilson², Meriel Norris¹, John Cossar¹

¹Brunel University London, ²University of Exeter

P1-R-153 *Functional electrical stimulation during gait following anterior cruciate ligament reconstruction - a preliminary study*

shmuel springer¹, Uria Moran², Uri Gottlieb², Arnon Gam²

¹Ariel University, ²IDF Medical Corps

P1-S-154 *How varying levels of skin stretch affect perceived skin stretch sensitivity*

William MacDonald¹, Simone Smith¹, Shawn Beaudette², Stephen Brown¹, Leah Bent¹

¹University of Guelph, ²University of Ottawa

P1-U-155 *Reshaping of gait coordination with robotic intervention in myelopathy patients with residual motor disturbances after surgery*

Sandra Puentes¹, Hideki Kadone¹, Shigeki Kubota¹, Tetsuya Abe², Yukiyo Shimizu¹, Yasushi Hada¹, Aiki Marushima², Masashi Yamazaki¹, Yoshiyuki Sankai¹, Kenji Suzuki¹

¹University of Tsukuba, ²Faculty of Medicine, University of Tsukuba Hospital

P1-V-156 *Testing the potential of immersive technologies for measuring motor skills*

Mshari Alghadier¹, Jack Brooks¹, Faisal Mushtaq¹, Mark Mon-Williams¹

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P1-V-157 *The effects of changes to body dimensions on an aperture crossing task*

Braden Boley¹, Michael Cinelli¹

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P1-V-158 *Examining body size-characteristics on obstacle avoidance behaviour in human locomotion*

Sheryl Bourgaize¹, Bradford McFadyen², Michael Cinelli¹

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P1-V-159 *Balance control during the reintegration of proprioceptive and vestibular information*

Jean-Philippe Cyr¹, Martin Simoneau¹, Noémie Anctil¹

¹Université Laval

P1-V-160 *Frequency characteristics of heteronymous Achilles tendon reflexes during quiet stance*

Gregg Eschelmuller¹, Robyn Mildren¹, Jean-Sebastien Blouin¹, Mark Carpenter¹, J. Timothy Inglis¹

¹University of British Columbia

P1-V-161 *Comparing the effects of four different haptic modalities on the standing balance of individuals with an incomplete spinal cord injury*

Pawan Kumar¹, Tarun Arora², Joel Lanovaz¹, Renato Moraes³, Kristin Musselman⁴, Alison Oates¹

¹University of Saskatchewan, ²Cleveland Clinic Foundation, ³University of São Paulo, ⁴University of Toronto

P1-V-162 *Balance control in young adult athletes with a history of recent concussion (> 3 months) during a lower limb reaching task*

Katelyn Mitchell¹, Michael Cinelli¹

¹Wilfrid Laurier University

P1-V-163 *Light touch with two hands rather than one more effectively reduces postural sway, but number of contact points does not similarly influence the effectiveness of the haptic anchors in older adults*

Renato Moraes¹, Bruno Bedo¹, Vitor Arpini¹, Rosangela Batistela¹, Paulo Santiago¹, Eliane Mauerberg-deCastro²

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P1-V-164 *Adaptability of human gait: Effect of training with red noise auditory stimuli on gait fluctuation patterns*

Cecilia Power¹, Jeevaka Kiriella¹, Janessa Drake¹, William Gage¹

¹York University

P1-V-165 *Assessment of balance after repeated sub-concussive head trauma in female athletes*

Christopher Rhea¹, Sam DuBois¹, Victoria Blevins¹, Kristen Schleich², Scott Ross¹, Donna Duffy¹

¹University of North Carolina, Greensboro, ²Elon University

P1-V-166 *Effect of the horizontal-vertical illusion on stepping-over action*

Ryota Sakurai¹, Kentaro Kodama², Yu Ozawa³

¹Tokyo Metropolitan Institute of Gerontology, ²Kanagawa University, ³Waseda University

P1-V-167 *Sensory weighting and organization strategies used by young adults with CLBP during standing*

Jennifer Sansom¹, Karen Lomond²

¹Central Michigan University, ²Ithaca College

P1-V-168 *Associations between motor cortex inhibition and stable turning characteristics in healthy controls and people with multiple sclerosis*

Clayton Swanson¹, Andrew Monaghan¹, Sutton Richmond¹, Tyler Whittier¹, Brett Fling¹

¹Colorado State University

P1-W-169 *Correlation between mandibular position and modification of stabilometric parameters (LFS, VarVit)*

Michele Barbera¹, Nicolò Barbera¹, Emanuele Barbera², Andrea Fregoni¹

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P1-W-170 *Loading response peak anchoring: A novel solution for the double-belt problem*

Oran Ben-Gal¹, Glen Doniger¹, Maya Cohen¹, Michal Schnaider-Beeri¹, Meir Plotnik¹

¹Sheba Medical Center

P1-W-171 *Evaluation of balance recovery from unpredictable large-magnitude perturbations through the compensatory arm and leg movements (CALM) scale*

Luis Teixeira¹, Marina Betelli¹, Patricia Takazono¹, Caroline Souza¹, Julia Oliveira¹, Daniel Coelho¹, Jacques Duysens²

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P1-W-172 *An evaluation of a proprietary motion capture system via kinematic analysis*

Vincenzo Di Bacco¹, Dmitry Verniba¹, William Gage¹

¹York University

P1-W-173 *Estimating lateral margin of stability during walking and turning using inertial sensors*

Peter Fino¹, Carolin Curtze²

¹University of Utah, ²University of Nebraska Omaha

P1-W-174 *Automated and quantification of the tandem walking using a wearable device*

Natalie Ganz¹, Eran Gazit¹, Amit Hadad², Aron Buchman³, Anat Mirelman¹, Jeff Hausdorff¹

¹Tel Aviv Sourasky Medical Center, ²Tel Aviv University, ³Rush Alzheimer's Disease Center

P1-W-175 *Creating and validating a shortened version of the community balance & mobility scale for application in young seniors*

Katharina Gordt¹, A.Stefanie Mikolaizak², Kristin Taraldsen³, Ronny Bergquist³, Jeanine Van Ancum⁴, Corinna Nerz², Mirjam Pijnappels⁴, Andrea Maier⁴, Jorunn Helbostad⁵, Beatrix Vereijken⁵, Clemens Becker², Michael Schwenk⁶

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P1-W-176 *Towards better quantification of freezing of gait in Parkinson's disease: the added value of performance timing*

Talia Herman- Feinstein¹, Moria Dagan², Shirley Shema-Shiratzky¹, Marina Brozgol¹, Tal Reches¹, Nir Giladi¹, Brad Manor³, Jeff Hausdorff¹

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P1-W-177 *Test-retest reliability of force plate balance measures in individuals with chronic stroke*

Andrew Huntley¹, Elise Belhacel², Raabeae Aryan³, Alison Schinkel-Ivy⁴, Anthony Aquil¹, Avril Mansfield¹

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P1-W-178 *Peak plantar ankle flex push-off power estimation using single inertial measurement units*

Xianta Jiang¹, Mohsen Gholami¹, Janice ENG², Carlo Menon¹

¹Simon Fraser University, ²University of British Columbia and GF Strong Rehab Centre

P1-W-179 *Reliability of different clinical techniques for assessing foot posture*

Muge Kirmizi¹, Mehmet Cakiroglu¹, Ibrahim Simsek¹, Ata Elvan¹, Salih Angin¹

¹Dokuz Eylul University

P1-W-180 *Factors associated with daily variation in gait performance in older adults*

Alexa Ludington¹, Junhong Zhou¹, Wanting Yu¹, Brad Manor¹, On-Yee Lo¹

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P1-W-181 *Development of instrumented shoe with miniature high-capacity load vector sensor and application to gait assessment*

Masato Shindo¹, Takeshi Yamaguchi¹, Yoshihiro Sasaki², Kazuo Hokkirigawa¹

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P1-W-182 *Validity and usability of a mixed reality headset for automated mobility assessment*

Ruopeng Sun¹, Roberto Aldunate¹, Jacob Sosnoff¹

¹University of Illinois at Urbana-Champaign

P1-W-183 *Can we elicit increasing lumbar flexion movement using a standardized reaching paradigm in an immersive virtual reality environment?*

Susanne van der Veen¹, Dana Nocera², Kellen Kubik², Emma Fish², James Thomas¹

¹Virginia Commonwealth University, ²Ohio University

P1-W-184 *Quantification of seated balance control using system identification*

Albert Vette¹, Kshitij Agarwal¹, Alireza Noamani¹, Andrew Williams¹, Hossein Rouhani¹

¹University of Alberta

P1-X-185 *Postural instability in subjects with Usher syndrome*

Simona Caldani¹, Maria Pia Bucci¹, Maud Tisne¹, Isabelle Audo², Thierry Van Den Abbeele¹, Sylvette Wiener Vacher¹

¹Hopital Robert Debré, ²CHNO

P1-X-186 *Balance performance in bilateral vestibulopathy in relation to sensorimotor integration*

Nolan Herssens¹, Evi Verbecque², Wim Saeys¹, Luc Vereeck¹, Vincent Van Rompaey¹, Christopher McCrum³, Kenneth Meijer³, Ann Halleman¹

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P1-X-187 *Determination of an objective threshold for galvanic vestibular stimulation*

Youstina Mikhail¹, Jean-Marc Mac-Thiong², Dorothy Barthélemy³

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P1-X-188 *Evaluation of after-effects of noisy vestibular stimulation on vestibular motion perception*

Max Wühr¹, Aram Keywan¹, Klaus Jahn¹

¹Ludwig-Maximilians Universität München

P1-X-189 *Body equilibrium function in the course of Ménière's disease*

Masahiko Yamamoto¹

¹Toho University

P1-Y-190 *A perceptual perspective: exploring visual search patterns during freezing of gait in Parkinson's disease*

Lotte Hardeman¹, Elmar Kal², Toby Ellmers², Will Young², Anna Fielding²

¹Vrije Universiteit Amsterdam, ²Brunel University London

P1-Y-191 *Examining the relationship between visual acuity, executive function and postural control in cognitively healthy adults and adults with Alzheimer's dementia*

Susan Hunter¹, Alison Divine², Humberto Omana¹, Andrew Johnson¹, Jeff Holmes¹, Keith Hill³, Walter Wittich⁴

¹University of Western Ontario, ²University of Leeds, ³Curtin University, ⁴University of Montreal

POSTER SESSION 2: JULY 2ND, 2019

P2-A-1 *The effect of sensor location on the assessment of sit-to-stand transitions*

Arash Atrsaei¹, Benoît Mariani², Kamiar Aminian¹

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P2-A-2 *Real-world steps, cadence and walking bouts estimated by wrist sensor: Effects of aging, obesity and gender in a population-based cohort study*

Abolfazl Soltani¹, Anisoara Ionescu¹, Pedro Manuel Marques-Vidal², Kamiar Aminian¹

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P2-B-3 *Adaptation induced change in overground slip recovery outcomes: Distinct strategies or continuum of an emerging single strategy control?*

Tanvi Bhatt¹, Shuaijie Wang¹, Yi-Chung Pai², Yiru Wang¹

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P2-B-4 *Investigating proactive balance control in individuals with incomplete spinal cord injury.*

Mackenzie Bone¹, Kristin Musselman², Joel Lanovaz¹, Tarun Arora³, Gary Linassi⁴, Alison Oates¹

¹University of Saskatchewan, ²University of Toronto, ³Cleveland Clinic Foundation, ⁴Saskatchewan Health Authority

P2-B-5 *Locomotor savings of split-belt gait adaptation indicate long-term adaptation processes*

Tom Buurke¹, Claudine Lamoth¹, Lucas van der Woude¹, Rob den Otter¹

¹University Medical Center Groningen

P2-B-6 *Singular Spectrum Analysis for the detection of adaptation rates in split-belt data*

Rob den Otter¹, Tom Buurke¹, Claudine Lamoth¹

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P2-B-7 *Implicit and explicit motor learning in gait rehabilitation of people after stroke: a randomized controlled single blind trial*

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P2-B-8 *Hands up in the air and wave them like you care: Effect of exposure on upper limb kinematics during continuous, multi-directional perturbations*

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P2-B-9 *Neuromuscular adaptations in balance control following a lower-limb transfemoral amputation*

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¹Friedrich-Alexander University (FAU) Erlangen-Nürnberg, ²University of Freiburg, ³Sanitätshaus Pfänder, ⁴University of Calgary

P2-B-10 *Developing resilience to unpredictable body balance perturbations: contextual interference effect in the training of compensatory arm and leg movements*

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P2-B-11 *How does balance affect gait in stroke survivors?*

Susanne van der Veen¹, Ulrike Hammerbeck², Kristen Hollands³

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P2-C-12 *Cognitive-motor interference in older adults while navigating in an ecological environment*

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P2-C-13 *Parkinsonian gait in aging: a signature of Alzheimer's pathology*

Gilles Allali¹, Eric Morel², Stephane Armand¹, Frederic Assal¹

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P2-C-14 *Effect of High Intensity Interval Training combined with citrulline supplementation on gait parameters and its predictors in healthy older women: a pilot study*

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P2-C-15 *Rate of muscle force development during fatigue: Impact of age*

Marc Belanger¹, Charlotte Pion¹, Justine Lai¹, Said Mamouh¹, Mylène Aubertin-Leheudre¹

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P2-C-16 *Can years of education predict gait speed? A cross-sectional study of community-dwelling Brazilian older adults*

Renato Freire Júnior¹, Jaqueline Porto¹, Julia Fernandes¹, Larissa Bocarde¹, Tatiane Pontes¹, Karoliny Cruz², Juliane Belém³, Daniela Abreu¹

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P2-C-17 *Is trunk strength associated with functional mobility in older women?*

Emily Gregg¹, Gareth Nicholson¹, Clive Beggs¹, Athanassios Bissas¹

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P2-C-18 *Which lower limb muscle strength could be associated with low gait speed in frail older people?*

Natalia Iosimuta¹, Natalia Alves², Emanuella Angeluni², Fernanda Pessanha², Larissa Marques², Renato Freire Junior³, Eduardo Ferrioli², Daniela Cristina Abreu²

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P2-C-19 *Spatiotemporal gait parameters for older adults - an interactive model adjusting reference data for gender, age, and body height*

Rolf Moe-Nilssen¹, Jorunn Helbostad²

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P2-C-20 *The effects of fatigue and age on gait dynamics*

Paulo Cezar Santos¹, Tibor Hortobágyi², Inge Zijdewind², Lilian Gobbi¹, Fabio Barbieri¹, Claudine Lamoth³

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P2-C-21 *Age-related differences in the energy cost of walking while thinking*

Britney Williams¹, Taylor Woods¹, James Lang², Jessie Vanswearingen³, Kristin Lowry¹

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P2-C-22 *Effects of age-related changes in step length and step width on the friction requirement at shoe-floor interface during straight level walking*

Takeshi Yamaguchi¹, Kei Masani²

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P2-D-23 *Neural mechanisms of balance and gait adaptations after downslope walking*

Nikki Aitcheson-Huehn¹, Jayne Kalmar¹, Michael Cinelli¹

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P2-D-24 *Elucidation of the trunk motion affecting the knee joint stress during gait*

Masahiro Edo¹, Fumiko Kamijo², Toshihiko Sato³

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P2-D-25 *Effect of trunk brace on forward bending movement characteristics in patients with scoliosis*

Wei-Chun Hsu¹, Muhammad Izhar Ahmed¹, Chao-Chin Chang¹, Chi Kuang Feng², Shi-Jinn Horng¹, Chung-Hsien Kuo¹, Shang-Chih Lin¹

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P2-D-26 *Relationship between foot posture assessment techniques and dynamic plantar pressure variables*

Muge Kirmizi¹, Mehmet Cakiroglu¹, Ibrahim Simsek¹, Salih Angin¹

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P2-D-27 *Lateral stability during anterior and posterior support surface perturbations in people with chronic stroke*

Christopher McCrum¹, Andrew Huntley², Alison Schinkel-Ivy³, Avril Mansfield²

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P2-D-28 *Using induced acceleration to study the effects of age and grade on the joint moment strategy to control knee flexion during weight acceptance in walking*

Jeroen Waanders¹, Tibor Hortobágyi¹, Alessio Murgia¹, Paul DeVita², Jason Franz³

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P2-E-29 *Are there associations between prefrontal cortex activity and turning behaviors in people with and without freezing of gait?*

Valeria Belluscio¹, Samuel Stuart², Elena Bergamini¹, Giuseppe Vannozzi¹, Martina Mancini²

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P2-E-30 *Validation of divergent neural dysfunction in idiopathic REM sleep behaviour disorder patients separated using clinical phenotyping*

Kaylena Ehgoetz Martens¹, Elie Matar¹, James Shine¹, Joseph Phillips², Ronald Grunstein¹, Glenda Halliday¹, Simon Lewis¹

¹University of Sydney, ²University of Western Sydney

P2-E-31 *Prefrontal cortex activity requirements when young and older people perform cognitively-demanding stepping tasks in supported and unsupported conditions: a fNIRS study*

Jasmine Menant¹, Paulo Pelicioni¹, Daina Sturnieks¹, Stephen Lord¹

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P2-E-32 *Exploration of brain cholinergic correlates of gait in Parkinson disease: an in vivo voxel-based [18F]FEOBV PET analysis*

Martijn Muller¹, Prabesh Kanel¹, Nicolaas Bohnen¹

¹University of Michigan

P2-E-33 *Brain activation associated with active and passive overground gait in a robotic exoskeleton*

Sue Peters¹, Denis Louie¹, Shannon Lim¹, Chieh-ling Yang¹, Janice Eng¹

¹University of British Columbia

P2-E-34 *Auditory-evoked cortical activity preceding postural instability*

Paula Polastri¹, Mark Laylor², Jessy Varghese², William McIlroy²

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P2-E-35 *Brain functional substrate of gait observation in Parkinson's disease*

Martina Putzolu¹, Giulia Bommarito¹, Cecilia Cerulli¹, Giovanna Lagravinese¹, Carla Ogliastro¹, Gaia Bonassi¹, Laura Avanzino¹, Matilde Inglese¹, Elisa Pelosin¹

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P2-E-36 *Higher resting state connectivity of the dopaminergic motor network may reduce age-related step length variability*

Caterina Rosano¹, Helmet Karim¹, Andrea Rosso¹, Nicolas Bohnen², Howard Aizenstein¹, Stephen Smagula¹, Stephanie Studenski¹

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P2-E-37 *Removal of artifacts to compute intra stride cortical dynamics with EEG in Parkinson's disease*

Marlieke Scholten¹, Markus Siegel², Daniel Weiss¹

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P2-E-38 *Cortical response to open and closed-loop tactile cueing during walking and turning in Parkinson's*

Samuel Stuart¹, Martina Mancini¹

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P2-E-39 *Influence of anxiety on prefrontal cortical activity during usual walking and obstacle crossing in older adults.*

Nubia Conceição¹, Priscila Sousa¹, Diego Orcioli-Silva¹, Victor Beretta¹, Ellen Lirani-Silva¹, Lilian Gobbi¹, Rodrigo Vítório¹

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P2-F-40 *Gait patterns and cognitive decline: A longitudinal population-based study*

Oshadi Jayakody¹, Monique Breslin¹, Velandai Srikanth², Michele Callisaya¹

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P2-F-41 *Is free-living gait assessment a useful marker of cognitive impairment and dementia disease subtype?*

Riona Mc Ardle¹, Brook Galna¹, Silvia Del Din¹, Alan Thomas¹, Lynn Rochester²

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P2-F-42 *Developing exercise groups for persons with dementia*

Kristin Taraldsen¹, Elisabeth Boulton², Jorunn Helbostad³, Ingvild Saltvedt⁴, Gro Tangen⁵, Randi Granbo⁴

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P2-F-43 *The effects of cognitive impairment on the multi-scale dynamics of standing postural control in older adults*

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P2-G-44 *The validity and predictive validity of the Gait-Specific Attentional Profile (G-SAP)*

Adam Cocks¹, William Young¹, Toby Ellmers¹, Joseph McCarthy¹, Noel Kinrade¹

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P2-G-45 *Emotional, cognitive, and postural adaptations to repeated postural threat exposure*

Kyle Johnson¹, Martin Zaback², Craig Tokuno¹, Mark Carpenter², Allan Adkin¹

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P2-G-46 *Reading the mind: Pupillometry as a means to measure conscious movement processing?*

Elmar Kal¹, Nieck Detillon², Bram Kragting², John van der Kamp²

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P2-G-47 *Factors associated with texting while walking performance across different environments*

Tal Krasovsky¹, Patrice Weiss¹, Rachel Kizony¹

¹University of Haifa

P2-G-48 *Dual-task gait training is not superior to single-task gait training within 3 years of stroke: a randomized controlled trial*

Prudence Plummer¹, Jody Feld¹, Lisa Zukowski², Bijan Najafi³

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P2-G-49 *Increasing the distance of an external focus of attention enhances learning: A replication and extension of McNevin, Shea and Wulf (2003)*

Nadia Polskaia¹, Rebecca Bond¹, Juliane Ratte¹, Yves Lajoie¹

¹University of Ottawa

P2-G-50 *Relating reaction times to local sway features to unveil intermittency in postural control*

John Stins¹, Melvyn Roerdink¹

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P2-G-51 *Smartphone-based balance assessment for older adults enrolled a 12-week attentionally focused balance training intervention: Preliminary data*

Ruth Stout¹, Lauren Higgins¹, Danielle Felsburg¹, Masahiro Yamada¹, Sean Cochrane¹, Chanel LoJacono¹, Amanda Barclift¹, John Palazzolo¹, Jeff Labban¹, Louisa Raisbeck¹, Jeffery Fairbrother², Christopher Rhea¹

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P2-G-52 *Postural adjustments during manual motor imagery in young and older people*

Chloe Wider¹, Mark Andrews¹, Hayley Boulton¹, Suvobrata Mitra¹

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P2-H-53 *The association of confidence in walking, fear of falling and cautious gait in older adults*

Maha Almarwani¹, Jennifer Brach²

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P2-H-54 *Postural control following a sport-related concussion changes in response to continuous platform rotations*

Harry Bailey¹, Cameron Kirk¹, Richard Mills², Richard Foster¹

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P2-H-55 *Control of the trunk during walking: Early manifestations of antero-posterior angle changes*

Ioannis Bargiotas¹, Juan Mantilla¹, Danping Wang¹, Pierre-Paul Vidal¹

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P2-H-56 *Dual tasks during treadmill walking in a fully immersive virtual environment*

Lars Peder Bovim¹, Beate Gjesdal¹, Silje Maeland¹, Bård Bogen¹

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P2-H-57 *Beat perception and production abilities affect responsiveness of temporal gait asymmetry to rhythmic auditory stimulation following stroke*

Lucas Crosby¹, Jennifer Wong², Jessica Grahn³, Joyce Chen¹, Dina Brooks¹, Kara Patterson¹

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P2-H-58 *Unwinding the control of walking turns*

Carolin Curtze¹

¹University of Nebraska Omaha

P2-H-59 *Head anticipation during auditory instructed locomotion*

Felix Dollack¹, Hideki Kadone¹, Monica Perusquia Hernandez¹, Kenji Suzuki¹

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P2-H-60 *The effect of changes in body weight on postural control in obese and non-obese adults: a pilot study*

Daniela Godoi¹, Rafael Santi¹

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P2-H-61 *Repetitive experience touching door edges with fingers while walking through an aperture to improve fine-tuning of collision-avoidance behavior*

Tomoki Hakamata¹, Yoshitsugu Kondo², Takahiro Higuchi³

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P2-H-62 *The influence of anxiety on motor strategy selection during a stepping down paradigm in older adults*

Nick Kluff¹, Sjoerd Bruijn¹, Jaap van Dieën¹, Mark Carpenter², Mirjam Pijnappels¹

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P2-H-63 *Exploring the relationships between trunk sway, walking speed and gender*

Joel Lanovaz¹, Sahya Bhargava¹, Robert Downey¹, Alison Fedoriuk¹, Logan Michalishen¹, Serena Saini¹, Alison Oates¹

¹University of Saskatchewan

P2-H-64 *Motor deficits in Parkinson's disease are heterogeneously corrected for by Deep Brain Stimulation*

Christoph Maurer¹

¹University Freiburg

P2-H-65 *Slower reactive turning while walking in older adults: an association with cognitive-motor function*

Takahito Nakamura¹, Takahiro Higuchi², Touyou Kikumoto¹, Fumihiko Hoshi¹

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P2-H-66 *Feedforward and feedback control components in the generation of automatic postural responses*

Nametala Azzi¹, Julia Oliveira¹, Daniel Coelho¹, Luis Teixeira¹

¹University of São Paulo

P2-H-67 *Postural reactions and spinal excitability modulation during balance perturbation following incomplete spinal cord injury*

Charlotte Pion¹, Mélissa St-Pierre Bolduc², Zoé Miranda², Maureen MacMahon³, Dorothy Barthélemy²

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P2-H-68 *The effects of cognitive interference on gait and turning in Huntington's disease*

Nicollette Purcell¹, Jennifer Goldman¹, Bryan Bernard¹, Joan O'Keefe¹

¹Rush University Medical Center

P2-H-69 *Sensory contributions to head and lumbar sway in healthy individuals and those with mild traumatic brain injury*

Tiphanie Raffegeau¹, Mindie Clark¹, Lucy Parrington², Robert Peterka², James Chesnutt², Laurie King², Peter Fino¹

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P2-H-70 *Bridging the callosal gap in gait: a mechanistic evaluation of white matter's role in bilateral coordination*

Sutton Richmond¹, Clayton Swanson¹, Tyler Whittier¹, Daniel Peterson², Brett Fling¹

¹Colorado State University, ²Arizona State University

P2-H-71 *The contribution of intralimb kinetic coordination in lower limb to control of propulsion and weight support at a wide range of gait speed in young and elderly people*

Yusuke Sekiguchi¹, Dai Owaki¹, Keita Honda¹, Shin-Ichi Izumi¹

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P2-H-72 *Postural balance at children survived after posterior fossa tumor, acute lymphoblastic leukemia and hematopoietic stem cell transplantation*

Dmitry Skvortsov¹, Alexey Parshikov², Daria Zhuk², Vlad Nikulin², Serafima Chechel'nitskaya², Vladimir Kasatkin³, Alexander Karelin³

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P2-H-73 *Tandem Walking Test kinematics - a normal data*

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P2-H-74 *Postural adaptations in response to haptic forces during self-paced treadmill walking post-stroke*

Gianluca Sorrento¹, Philippe Archambault², Joyce Fung²

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P2-H-75 *The role of vision in backward walking in patients with stroke*

Meng Ru Tsai¹, Pei-Yun Lee², Nai-Hua Kuo¹, Chih-Hung Chen¹, Sang-I Lin¹, Pei-Yun Lee²

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P2-H-76 *Fluctuation of center of pressure and the affecting factors in young children*

Naomi Tsugita¹, Syuhei Kobayashi¹, Shino Ogawa¹, Taiko Shiwa¹, Yasuko Funabiki¹

¹Kyoto University

P2-H-77 *Age-related changes in reactive arm responses following support surface perturbations*

David Shulman¹, Jaykob Price¹, Lori Ann Vallis¹

¹University of Guelph

P2-H-78 *Exploring the interaction between motor competence and dual task walking in adolescents*

Benjamin Weedon¹, Patrick Esser¹, Johnny Collett¹, Hooshang Izadi¹, Shawn Joshi¹, Andy Meaney¹, Anne Delextrat¹, Helen Dawes¹

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P2-H-79 *Mechanical consequences of trunk flexion on slopes during human walking*

Amy Wu¹, Salman Faraji², Christopher Easthope³, Auke Ijspeert²

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P2-I-80 *Monitoring postural control development in children using inertial sensors: should we account for body size and gender?*

Maria Cristina Bisi¹, Rita Stagni¹

¹University of Bologna

P2-I-81 *Characteristics of postural adjustments in sitting reach task in adults with cerebral palsy.*

YUI SATO¹, Hideyuki Tashiro¹, Naoki Kozuka¹

¹Sapporo Medical University

P2-I-82 *Balance recovery following mediolateral pelvis perturbations during slow walking*

Michelle van Mierlo¹, Boris Ruwe¹, Mark Vlutters¹, Edwin H. F. van Asseldonk¹, Herman van der Kooij¹

¹University of Twente

P2-J-83 *Reproducibility of the Timed Up and Go (TUG) standard and dual task versions in school-aged children with and without coordination difficulties.*

Leanne Johnston¹, Breanna Raatz¹, Gemma Allinson¹, Rosalee Dewar¹, Sally Hannah¹

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P2-J-84 *Will my child walk? New insights into the relationship between lower limb muscle strength and gross motor function in children with spina bifida myelomeningocele.*

Leanne Johnston¹, Ashleigh Gehrig¹, Nicole Thomas²

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P2-J-85 *A retrospective study towards characterizing the long-term effects of single-event multilevel surgery on gait consistency in children with spastic bilateral cerebral palsy*

Rosa Visscher¹, Nadine Hasler¹, Marie Freslier², Navrag Singh¹, Reinald Brunner², Erich Rutz²

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P2-J-86 *Functional gait in children with developmental coordination disorder compared to typically developing children*

Rosanne Kuijpers¹, Ellen Smulders¹, Vivian Weerdesteyn¹

¹Radboud University Medical Center

P2-K-87 *Non-invasive spinal cord stimulation for the treatment of motor symptoms of Parkinson's disease*

Maria Alamos¹, Aquiles Martinez², Carlos Juri¹, Rómulo Fuentes²

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P2-K-88 *Effect of postural insoles on iliotibial band syndrome in runners: a multicentre prospective study*

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P2-K-89 *Effect of learning to use a single-point cane on gait and cognitive demands of walking in people with mild to moderate Alzheimer's dementia*

Susan Hunter¹, Alison Divine², Humberto Omana¹, Walter Wittich³, Andrew Johnson¹, Keith Hill⁴, Jeff Holmes¹

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P2-K-90 *The effect of Arctic Grip contact area on footwear performance during winter walking*

Kristie Liu¹, Tilak Dutta²

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P2-K-91 *The effect of real-time biofeedback on lumbar spine and lower limb kinematics and kinetics during repetitive lifting*

Yanto Naudé¹, Grant Mawston¹, Jeff Kilby¹, Mark Boocock¹

¹Auckland University of Technology

P2-K-92 *The effects of non-invasive transcranial brain current stimulation (tDCS) on posture over stable and unstable surfaces in people with Parkinson's: A randomised double-blind sham-controlled crossover study*

Jing Qi¹, Graham Kerr², Karen Sullivan², Simon Smith³, Marcus Meinzer⁴

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P2-K-93 *Examining the long term effects of using the anchor system on postural control during walking*

Kirat Shukla¹, Joel Lanovaz¹, Alison Oates¹

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P2-K-94 *A feasibility study for gait training with foot-floor contact angle feedback*

Christina Ma¹, Tian Bao², Victor Le², April Chambers³, Peter Shull⁴, Yong-Ping Zheng⁵, Rakié Cham³, Kathleen Sienko²

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P2-L-95 *The effects of levodopa on prefrontal activation during gait in individuals with Parkinson's disease*

Moria Dagan¹, Hagar Bernad-Elazari², Talia Herman², Rachel Harrison³, Junhong Zhou⁴, Shiran Shustak², Marina Brozgol², Nir Giladi², Anat Mirelman², Brad Manor⁴, Jeff Hausdorff²

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P2-L-96 *The effects of dopaminergic drug on turning in people with and without Parkinson's disease*

Douglas Martini¹, Graham Harker¹, John Nutt¹, Fay Horak¹

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P2-L-97 *Objective gait and balance outcome measures for efficacy of cyclodextrin treatment in Niemann-Pick Type C (NPC): a case series*

Joan O'Keefe¹, Jessica Joyce¹, Nicollette Purcell¹, Kathryn Wrobel¹, Medha Parulekar¹, Elizabeth Berry-Kravis¹

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P2-M-98 *Lifestyle integrated functional exercise for inpatients suffering from cognitive impairment - a transitional approach to prevent hospitalized older adults from functional decline*

Nacera Belala¹, Michael Schwenk¹, Clemens Becker²

¹Heidelberg University, ²Robert-Bosch-Krankenhaus

P2-M-99 *Association between motor skills and physical activity in preschoolers*

Becky Breau¹, Berit Steenbock¹, Marvin Wright¹, Christoph Buck¹, Mirko Brandes¹

¹Leibniz Institute for Prevention Research and Epidemiology

P2-M-100 *A validation and comparison of Actigraph GT9X Link and RunScribe Plus accelerometers for the estimation of skeletal loading during habitual physical activities*

Simon Higgins¹, Srikant Vallabhajosula¹

¹Elon University

P2-M-101 *The beneficial effects of multisensory balance training in older adults: a systematic review*

Shu-Chun Lee¹, Li-Yun Yeh¹

¹Taipei Medical University

P2-M-102 *The effect of bed rest on balance control in healthy adults: A systematic scoping review*

Tyler Saumur¹, Sarah Gregor¹, George Mochizuki¹, Avril Mansfield², Sunita Mathur¹

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P2-M-103 *Effect of slope squat on lower-extremity muscle activity*

Yi Wan¹, Jianqiao Wang², Jennifer Davies¹, Kate Button¹, Mohammad Al-Amri¹

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P2-N-104 *A novel multivariate approach to characterise stair-negotiating behaviour and detect fall risk in older adults*

Thijs Ackermans¹, Natasha Francksen¹, Raul Casana-Eslava¹, Carolyn Lees¹, Vasilios Baltzopoulos¹, Paulo Lisboa¹, Mark Hollands¹, Thomas O'Brien¹, Constantinos Maganaris¹

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P2-N-105 *Walking for better outcomes and recovery: The effect of WALK-FOR in preventing hospital-associated functional decline among older adults*

Maayan Agmon¹, Anna Zisberg¹, Yaniv Cohen¹, Efrat Gil², Yehudith Chayat³, Chedva Levin⁴, Nurit Gur-Yaish¹, Debbi Rand⁵

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P2-N-106 *Lateral loss of balance among one-time fallers and recurrent fallers reveals contrasted differences in step thresholds and spatiotemporal parameters compared to non-fallers*

Shani Batcir¹, Guy Shani¹, Amir Shapiro¹, Yoav Gimmon¹, Ilan Kurz¹, Itshak Melzer¹

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P2-N-107 *Falling down - limbs and trunk muscles responses to vertical perturbations*

Desiderio Cano Porrás¹, Jesse Jacobs², Rivka Inzelberg³, Ofer Keren¹, Gabriel Zeilig¹, Meir Plotnik¹

¹Sheba Medical Center, ²University of Vermont, ³Tel Aviv University

P2-N-108 *Falls and locomotor capabilities in lower limb amputees. First results of a retrospective study from the MOTU project*

Lorenzo Chiari¹, Serena Moscato¹, Pericle Randi², Luca Palmerini¹, Angelo Davalli², Pierpaolo Palumbo¹

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P2-N-109 *Measuring foot clearance on outdoor walkways*

Ghazaleh Delfi¹, Megan Kamachi¹, Jose Beltran², Tilak Dutta¹

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P2-N-110 *Wearable sensor detection of real-world trips in at-fall risk community dwelling older adults*

Shirley Handelzalts¹, Neil Alexander¹, Linda Nyquist², Debra Strasburg¹, Nicholas Mastruserio², Lauro Ojeda²

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P2-N-111 *Static balance following a 12-week attentionally focused balance training intervention: preliminary data*

Lauren Higgins¹, Masa Yamada¹, Ruth Stout¹, Danielle Felsberg¹, Chanel LoJacono¹, Sean Cochran¹, Amanda Barclift¹, John Palazzolo¹, Jeff Labban¹, Jeffrey Fairbrother¹, Christopher Rhea¹, Louisa Raisbeck¹

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P2-N-112 *Joint angle variance in the bipedal linked chain during curb negotiation*

Ashwini Kulkarni¹, HyeYoung Cho¹, Chuyi Cui¹, Shirley Rietdyk¹, Satyajit Ambike¹, Fabio Barbieri²

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P2-N-113 *Functional Gait Assessment (FGA) after a 12-week attentionally focused balance training intervention: Preliminary data*

Danielle Felsberg¹, Lauren Higgins¹, Ruth Stout¹, Masahiro Yamada¹, Sean Cochran¹, Chanel LoJacono¹, Amanda Barclift¹, John Palazzolo¹, Jeff Labban¹, Jeffrey Fairbrother¹, Christopher Rhea¹, Louisa Raisbeck¹

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P2-N-114 *Falling for it: The effects of anxiety on balance control*

Anna Fielding¹, Will Young¹, Andrew Parton¹

¹Brunel University London

P2-N-115 *Effects of step direction and stimulus modality on step reactions during a prolonged motor-cognitive task in older adults*

Eleftheria Giannouli¹, Wiebren Zijlstra¹

¹German Sport University Cologne

P2-N-116 *Association of walk ratio during normal gait speed and fall in community-dwelling elderly people*

Sho Nakakubo¹, Takehiko Doi¹, Kota Tsutsumimoto¹, Min-Ji Kim¹, Satoshi Kurita¹, Hideaki Ishii¹, Hiroyuki Shimada¹

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P2-N-117 *Validating the rate of perceived stability scale to measure balance training intensity among older adults*

M Ann Reinthal¹, Debbie Espy¹, Lorenzo Bianco¹, Kathryn Kroszkewicz¹

¹Cleveland State University

P2-N-118 *Transfer and retention effects of perturbation-based treadmill training in older adults.*

Markus Rieger¹, Selma Papegaaij², Mirjam Pijnappels¹, Frans Steenbrink², Jaap van Dieën¹

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P2-N-119 *Elderly fallers and non-fallers adjust their posture in anticipation of perturbations*

Thomas Robert¹, Charlotte Le Mouel², Romain Tisserand³, Romain Brette⁴

¹Université de Lyon, ²Max Planck Institute of Intelligent Systems, ³University of British Columbia, ⁴Sorbonne Université, INSERM, CNRS, Institut de la Vision

P2-N-120 *The influence of fear priming on whole-body reaching in young and older adults*

Alexander Stamenkovic¹, Susanne van der Veen¹, James Thomas¹

¹Virginia Commonwealth University

P2-N-121 *Fall risk and falls are related to spatiotemporal gait asymmetry in older adults: Effect of gait speed*

Brian Street¹

¹California State University, Bakersfield

P2-N-122 *Lateral balance capacity after external perturbation in persons with chronic stroke*

Hideyuki Tashiro¹, YUI SATO¹, Naoki Kozuka¹

¹Sapporo Medical University

P2-N-123 *Do falls precede or follow changes in self-efficacy scores regarding falls and gait in community dwelling older adults?*

Roel Weijer¹, Marco Hoozemans¹, Jaap van Dieën¹, Mirjam Pijnappels¹

¹Vrije Universiteit Amsterdam

P2-O-124 *Mediolateral constraints during overhead unloading result in altered gait dynamics and balance regulation*

Christopher Easthope¹, Niklas Ignasiak², Mathias Bannwart¹, Sara Bayer¹, Armin Curt¹, Georg Rauter³, Marc Bolliger¹

¹University Hospital Balgrist, ²Chapman University, ³University Basel

P2-O-125 *Immediate effects of Voluntary-induced Stepping Response (VSR) training on protective stepping in persons with chronic stroke: A randomized control trial*

Kristen Hollands¹, Pornprom Chayasit², Mark Hollands³, Rumpa Boonsinsukh²

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P2-O-126 *The validity of the Swedish King's PD Pain Scale in people with Parkinson's disease*

Conran Joseph¹, Hanna Johansson¹, Breiffni Leavy¹, Erika Franzén¹

¹Karolinska Institutet

P2-O-127 *Effects of modified exercise programme for improving axial rigidity and turning dysfunction in individuals with Parkinson's disease*

Fuengfa Khobkhun¹, Mark Hollands¹, Amornpan Ajjimaporn²

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P2-O-128 *Differences in lateral symmetry of muscle synergies between acute post-stroke patients undergoing robot-assisted therapy and conventional therapy*

Chun Kwang Tan¹, Hideki Kadone², Hiroki Watanabe¹, Aiki Marushima¹, Yasushi Hada¹, Masashi Yamazaki¹, Yoshiyuki Sankai¹, Kenji Suzuki¹

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P2-P-129 *Visual effects on human balancing responses to support surface translation*

Emre Akcay¹, Vittorio Lippi², Lorenz Aszländer³, Thomas Mergner²

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P2-P-130 *Expanding a model of the dynamic Margin of Stability to evaluate balance control following support-surface perturbations*

Keaton Inkol¹, Lori Ann Vallis¹

¹University of Guelph

P2-Q-131 *Obstacle crossing in fallers with and without Parkinson's disease; influence of attentional demand*

Lisa Alcock¹, Brook Galna¹, Richard Foster², Jeff Hausdorff³, Sue Lord⁴, Lynn Rochester⁵

¹Newcastle University, ²Liverpool John Moores University, ³Tel Aviv Sourasky Medical Center, ⁴Auckland University of Technology, ⁵Institute of Neuroscience, Newcastle University

P2-Q-132 *Parkinson's disease delays predictable visual cue processing although does not affect complex and non-predictable visual cue processing in postural control*

Jose Barela¹, Caio Cruz², Flávia Doná³, Vitor Amaral⁴, Henrique Ferraz³, Ana Barela⁴

¹São Paulo State University (UNESP), ²University of São Paulo, ³Federal University of São Carlos (UFSCar),
⁴Cruzeiro do Sul University

P2-Q-133 *Impact of attentional abilities on step initiation in patients with Parkinson's disease with and without freezing of gait*

Madli Bayot¹, Aurore Braquet¹, Céline Tard¹, Luc Defebvre¹, Kathy Dujardin¹, Arnaud Delval¹

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P2-Q-134 *Postural biomechanical predictors of subjective and objective measures of severity of freezing of gait in Parkinson's disease*

Daniel Coelho¹, Caroline Souza¹, Carla Silva-Batista¹, Andrea de Lima-Pardini², Alexandre Bastos², Luis Teixeira¹

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P2-Q-135 *Is mediolateral dynamic balance in Parkinson's disease similar between freezers and non-freezers?*

Bauke Dijkstra¹, Moran Gilat¹, L. Eduardo Cofré Lizama², Sabine Verschueren¹, Alice Nieuwboer¹

¹KU Leuven, ²University of Melbourne

P2-Q-136 *Factors related to unanticipated obstacle negotiation success: association with Parkinson's disease and motor planning*

Irina Galperin¹, Eran Gazit², Ilan Kurtz¹, Topaz Sharon², Marina Brozgol², Nir Giladi², Anat Mirelman², Jeff Hausdorff²

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P2-Q-137 *Oxygenated hemoglobin concentration levels during usual walking and obstacle course in people with Parkinson's Disease (PD)*

Lilian Gobbi¹, Diego Orcioli-Silva¹, Priscila Sousa¹, Nubia Conceição¹, Victor Beretta¹, Ellen Lirani-Silva¹, Rodrigo Vitório¹

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P2-Q-138 *Characterization of novel centre of pressure cyclogram measures during double support phase of gait in people with stroke*

Sarah Gregor¹, Julie Vaughan-Graham², Kara Patterson¹

¹University of Toronto, ²Toronto Rehabilitation Institute

P2-Q-139 *Influence of ankle-foot orthosis with different type of joint on walking parameters in stroke patients*

Naruhito Hasui¹, Naomichi Mizuta¹, Yasutaka Higa², Yasutada Yamamoto², Ayaka Matsunaga², Tomoki Nakatani², Masako Tsutsumi², Junji Taguchi², Yohei Okada³

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P2-Q-140 *Can quantitative gait parameters serve as progression marker of Parkinson's disease? A longitudinal study over 5 years*

Markus Hobert¹, Susanne Nussbaum², Tanja Heger², Daniela Berg¹, Walter Maetzler¹, Sebastian Heinzel¹

¹Christian-Albrechts-University of Kiel, ²University of Tuebingen

P2-Q-141 *What can EMG tell us about the neuromotor control of gait in Parkinson's disease?*

Aisha Islam¹, Lisa Alcock¹, Kianoush Nazarpour¹, Lynn Rochester², Annette Pantall¹

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P2-Q-142 *Split-Belt Treadmill walking in people with Parkinson's disease: a systematic review*

Jana Seuthe¹, Nicholas D'Cruz², Pieter Ginis², Burkhard Weisser¹, Daniela Berg¹, Günther Deuschl³, Alice Nieuwboer², Christian Schlenstedt¹

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P2-Q-143 *Functional gait disorders and the broken escalator phenomenon*

Diego Kaski¹, Denise Lin², Akila Ramamoorthy², Patricia Castro², Amy Edwards², Jan Coebergh³, Mark Edwards³, Adolfo Bronstein²

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P2-Q-144 *Central cholinergic activity and risk of falls in patients with Parkinson's disease and freezing of gait*

Giovanna Lagravinese¹, Gaia Bonassi¹, Martina Putzolu¹, Alessandro Botta¹, Carola Cosentino¹, Anat Mirelman², Elisa Pelosin¹, Laura Avanzino¹

¹University of Genoa, ²Tel Aviv Sourasky Medical Center

P2-Q-145 *Why do asymmetric gait patterns persist after deep brain stimulation in Parkinson's disease?*

Deepak Ravi¹, Michelle Gwerder¹, Niklas Ignasiak², Christian Baumann³, Mechtild Uhl³, William Taylor¹, Navrag Singh¹

¹ETH Zurich, ²Chapman University, ³University Hospital Zurich

P2-Q-146 *The effect of closed-loop tactile feedback on gait initiation in people with Parkinson's disease with Freezing of Gait*

Christian Schlenstedt¹, Daniel Peterson², Martina Mancini³

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P2-Q-147 *Clinical meaningful thresholds of temporal and spatial gait parameters in the context of the differential diagnosis in gait ataxia*

Roman Schniepp¹, Max Wuehr¹, Julian Decker¹

¹Ludwig-Maximilians Universität München

P2-Q-148 *Quantity and quality of gait in PD, MS and healthy people in a community setting*

Vrutangkumar Shah¹, James McNames², Patricia Carlson-Kuhta¹, Rebecca Spain¹, John Nutt¹, Mahmoud El Gohary³, Fay Horak¹, Carolin Curtze⁴

¹Oregon Health & Science University, ²Portland State University, ³APDM, ⁴University of Nebraska Omaha

P2-Q-149 *Antero-posterior foot placement is disturbed in people with Parkinson's disease: preliminary data*

Lucas Simieli¹, Sjoerd Bruijn², Erwin E van Wegen³, Fabio Barbieri¹, Jaap van Dieën²

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P2-Q-150 *Predictors of subjective and objective measures of severity of freezing of gait in Parkinson's disease*

Caroline Souza¹, Acacio Neto¹, Daniel Coelho¹, Andrea Lima-Pardini², Raquel Marquesini¹, Alana Batista¹, Egberto Barbosa¹, Carlos Ugrinowitsch¹, Luis Teixeira¹, Carla Silva-Batista¹

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P2-Q-151 *Natural progression of gait impairment in early Parkinson's disease: A six-year prospective incident cohort study*

Joanna Wilson¹, Alison Yarnall¹, Sue Lord², Lisa Alcock¹, Rosie Morris³, David Burn¹, Lynn Rochester⁴, Brook Galna¹

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P2-Q-152 *MTBI and PTSD are dissociable using novel posturography assessments*

W. Geoffrey Wright¹, Amanda Haskell², Labeeby Servatius², Justin Handy³, Richard Servatius²

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P2-Q-153 *Frailty status predicts falls in early Parkinson's disease*

Alison Yarnall¹, Shauna Holland¹, Rosie Morris², Sue Lord³, Brook Galna¹, Lynn Rochester⁴

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P2-R-154 *Collegiate athletes with a conservative gait strategy are more likely to sustain a lower extremity musculoskeletal injury following concussion*

Jessie Oldham¹, David Howell², Christopher Knight³, Jeremy Crenshaw³, Thomas Buckley³

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P2-T-155 *Short postural training affects stability in children with autism spectrum disorders*

Simona Caldani¹, Maud Tisne¹, Paola Atzori¹, Hugo Peyre¹, Richard Delorme¹, Maria Pia Bucci¹

¹Hopital Robert Debré

P2-U-156 *Bilateral reshaping of gait coordination in hemiparetic stroke patients after early robotic intervention*

Sandra Puentes¹, Hideki Kadone¹, Hiroki Watanabe¹, Yasushi Hada¹, Tomoyuki Ueno¹, Aiki Marushima², Yoshiyuki Sankai¹, Kenji Suzuki¹

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P2-V-157 *Effects of ankle muscle fatigue and visual behavior on postural sway in young adults*

Fabio Barbieri¹, Tiago Penedo¹, Lucas Simieli¹, Ricardo Barbieri², Alessandro Zagatto¹, Jaap van Dieën³, Mirjam Pijnappels³, Sérgio Rodrigues¹, Paula Polastri¹

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P2-V-158 *Lightly gripping a motionless handle: Study of postural sway decrease and correlation between transient force changes applied to the handle and balance*

Angéline Bellicha¹, Andrés Trujillo-León¹, Wael Bachta¹

¹Sorbonne Université - ISIR

P2-V-159 *Dynamic reweighting of three modalities for sensor fusion after repetitive head impact*

Jaclyn Caccese¹, Fernando dos Santos¹, John Jeka¹

¹University of Delaware

P2-V-160 *Threat-related changes in postural control in virtual environments*

Jernej Camernik¹, Sanja Kezic², Jan Babic¹

¹Institute Jozef Stefan, ²Jozef Stefan Institute

P2-V-161 *The effects of lighting level on balance in dancers*

Elizabeth Coker¹, Terry Kaminski²

¹NYU/Tisch School of the Arts, ²Teachers College of Columbia University

P2-V-162 *Gender and form of thin plantar retrocapital metatarsal bar stimulations influence on postural control.*

Marc Janin¹

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P2-V-163 *The role of the vestibular system in the preparation of arm movements*

Michael Kennefick¹, Joel Burma¹, Paige Copeland¹, Paul van Donkelaar¹, Chris McNeil¹, Brian Dalton¹

¹University of British Columbia Okanagan

P2-V-164 *Support Surface Translation - Sway responses of vestibular able subjects resemble those of vestibular loss subjects*

Thomas Mergner¹, Emre Akcay², Vittorio Lippi¹, Lorenz Aszländer³

¹Neurological University Clinics, Freiburg, ²Kocaeli University, ³University of Konstanz

P2-V-165 *The effects of remote subthreshold stimulation on skin sensitivity in the lower extremity*

Emma Plater¹, Ryan Peters², Leah Bent¹

¹University of Guelph, ²University of Calgary

P2-V-166 *Electrocortical dynamics related to ankle proprioception reweighting*

Martin Simoneau¹, Catherine Bluteau¹, Anctil Noémie¹

¹Université Laval

P2-V-167 *Collision avoidance between two walkers: Reduced avoidance behaviour in previously concussed athletes*

Natalie Snyder¹, Michael Cinelli¹, Victoria Rapos¹, Armel Crétual², Anne-Hélène Olivier²

¹Wilfrid Laurier University, ²University of Rennes / Inria

P2-V-168 *Virtual time-to-contact indicates deficits in state prediction in women with multiple sclerosis*

Tyler Whittier¹, Sutton Richmond¹, Andrew Monaghan¹, Clayton Swanson¹, Brett Fling¹

¹Colorado State University

P2-W-169 *Test-retest reliability of frequency-domain measures of balance among people with sub-acute stroke.*

Raabeae Aryan¹, Andrew Huntley², Elizabeth Inness², Kara Patterson¹, Avril Mansfield²

¹University of Toronto, ²Toronto Rehabilitation Institute

P2-W-170 *Evaluation of gait in the non-rigid XoSoft exo-skeleton in stroke and SCI patients*

Chris Baten¹, Corien Nikamp¹, Leendert Schaake¹, Jaap Buurke¹

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P2-W-171 *Development of a clinical scale to assess retropulsion in neurological disorders*

Jeannine Bergmann¹, Carmen Krewer¹, Eberhard Koenig¹, Friedemann Müller¹, Klaus Jahn²

¹Schön Klinik Bad Aibling, ²Ludwig-Maximilians Universität München

P2-W-172 *The inter relations between arm-leg, arm-arm and leg-leg coordination during human walking*

Maya Cohen¹, Uri Rosenblum², Desiderio Cano Porrás¹, Oran Ben Gal², Meir Plotnik¹

¹Sheba Medical Center, ²Center for the Study of Movement, Cognition and Mobility, Neurological Institute, Tel Aviv Sourasky

P2-W-173 *Can an Inertial Measurement Unit assess the Shank-to-Vertical Angle in healthy individuals?*

Lysanne de Jong¹, Yvette Kerkum², Jeske Jansens¹, Noel Keijsers¹

¹Sint Maartenskliniek, ²OIM Orthopedie

P2-W-174 *Mobility disability in older adults through the eyes of the tandem walk*

Natalie Ganz¹, Eran Gazit¹, Aron Buchman², Anat Mirelman¹, Jeff Hausdorff¹

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P2-W-175 *Thinking about walking: a new approach to quantifying gait initiation using a wearable sensor*

Eran Gazit¹, Marina Brozgol¹, Pablo Cornejo Thumm¹, Robert Dawe², Thomas Curran², Anat Mirelman¹, Jeff Hausdorff¹, Aron Buchman²

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P2-W-176 *The association between physical capacity, physical performance, and fall risk in young seniors*

Katharina Gordt¹, Anisoara Paraschiv-Ionescu², Anna Mikolaizak³, Kristin Taraldsen⁴, Sabato Mellone⁵, Ronny Bergquist⁴, Jeanine Van Ancum⁶, Corinna Nerz³, Miriam Pijnappels⁶, Andrea Maier⁶, Jorunn Helbostad⁴, Beatrix Vereijken⁴, Clemens Becker³, Kamiar Am

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P2-W-177 *Gait analysis by the use of handy three-dimensional acceleration sensors*

Kazuo Ishikawa¹, Aya Asari¹, Hiromoto Kimura¹

¹Japanese Red Cross Akita Hospital

P2-W-178 *Development and content validity of a scale assessing lateropulsion in stroke patients: the SCALA*

Dominic Pérennou¹, Anais Odin², Emmuelle Clarac², Andréa Kistner², Shenhao Dai², Maud Barbado², Emilie Chipon², Carole Vuillerot², Jean-Luc Bosson², Alexandre Moreau-Gaudry², Céline Piscicelli¹

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P2-W-179 *Impact of a thin plantar orthopaedic insert on posture and locomotion*

Carole Pui¹, Anne Hélène Olivier², Armel Créteuil³

¹Rennes University - IFPEK - M2S Laboratory, ²Rennes University -INRIA - M2S Laboratory, ³University of Rennes / Inria

P2-W-180 *Deterioration of specific aspects of gait during the instrumented 6-minute walk test among people with multiple sclerosis*

Shirley Shema Shiratzky¹, Eran Gazit¹, Ruopeng Sun², Keren Regev¹, Arnon Karni¹, Jacob Sosnoff², Anat Mirelman¹, Jeff Hausdorff¹

¹Tel Aviv Sourasky Medical Center, ²University of Illinois at Urbana-Champaign

P2-W-181 *Preliminary evaluation of a self-guided fall risk assessment tool for older adults*

Ruopeng Sun¹, Roberto Aldunate¹, Vignesh Paramathayalan², Rama Ratnam¹, Sanjiv Jain³, Daniel Morrow¹, Jacob Sosnoff¹

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P2-X-182 *Body spatial representation in unilateral vestibular patients: Evolution before and after surgery*

Liliane Borel¹, Mathilde Bachelard-Serra², Laurence Bernard-Demanze², Jean-Pierre Lavielle², Arnaud Saj³, Jacques Honoré⁴

¹CNRS & Aix-Marseille Univ, ²Hôpital de la Conception, AP-HM, ³Geneva University Hospitals, ⁴Université de Lille

P2-X-183 *The effect of roll circularvection on the subjective postural horizontal*

Taylor Cleworth¹, John H. Allum², Emma Nielsen³, Mark Carpenter³

¹University of Waterloo, ²University of Basel Hospital, ³University of British Columbia

P2-X-184 *EEG correlates of postural dizziness of aging*

Richard Ibitoye¹, Patricia Castro¹, Onur Guven¹, Amy Edwards¹, Qadeer Arshad¹, Adolfo Bronstein¹

¹Imperial College London

P2-X-185 *Quantitative gait analysis of acoustic neuroma patients using portable accelerometer*

Koh Koizumi¹, Kazuo Ishikawa²

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P2-X-186 *Phase- and speed-dependent modulation of vestibulo-ocular reflexes during walking*

Max Wühr¹, Haike Dietrich¹

¹Ludwig-Maximilians Universität München

P2-X-187 *Optimal treatment period for vestibular balance rehabilitation in patients with chronic unilateral vestibular dysfunction*

Toshiaki Yamanaka¹

¹Nara Medical University

P2-X-188 *The utricular hypofunction of patients with type 2 diabetes mellitus has a subtle influence on the static postural control with neck extension.*

Kathrine Jáuregui-Renaud¹, Catalina Aranda-Moreno¹, Julio Villaseñor-Moreno¹, María Giraldez-Fernandez¹, Martha Gutierrez-Castañeda¹, Ignacio Figueroa-Padilla¹, Ana Saucedo-Zainos¹

¹Instituto Mexicano Del Seguro Social

P2-X-189 *Detecting alterations in head movements in individuals with vestibulopathy of varying etiology*

Lee Dibble¹, Brian Loyd¹, Annie Fangman¹, Janie Savier-Steiger¹, Mark Lester², Serene Paul³

¹University of Utah, ²Army-Baylor University, ³University of Sydney

P2-X-190 *Can the vestibulocollic response be modulated by optic flow?*

Yawen Yu¹, Emily Keshner²

¹Colorado State University, ²Temple University

POSTER SESSION 3: JULY 4TH, 2019

P3-A-1 *Associations between laboratory-based assessments and daily physical activity in patients with Parkinson's disease: Can one replace the other?*

Inbar Hillel¹, Ira Galperin¹, Silvia Del Din², Esther Bekkers³, Alice Nieuwboer³, Giovanni Abbruzzese⁴, Laura Avanzino⁵, Freek Nieuwhof⁶, Bastiaan Bloem⁶, Lynn Rochester⁷, Ugo Della Croce⁸, Andrea Cereatti⁹, Nir Giladi¹, Anat Mirelman¹, Jeff Hausdorff¹

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P3-A-2 *Comparison among PD, MS and healthy people between prescribed gait test and continuous monitoring of gait in a community setting*

Vrutangkumar Shah¹, James McNames², Patricia Carlson-Kuhta¹, Rebecca Spain¹, John Nutt¹, Mahmoud El Gohary³, Fay Horak¹, Carolin Curtze⁴

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P3-B-3 *Examining neural plasticity for slip-perturbation training: An fMRI study*

Tanvi Bhatt¹, Patel Prakruti¹, Shamali Dusane¹, Sophie DelDonno¹, Scott Scott Langenecker¹

¹University of Illinois at Chicago

P3-B-4 *Modulation of H-reflex; effect of age and surface stiffness*

Leila Alizadehsaravi¹, Sjoerd Bruijn¹, Huub Maas¹, Jaap van Dieën¹

¹Vrije Universiteit Amsterdam

P3-B-5 *After-effect magnitude predicts retention in split-belt gait adaptation*

Tom Buurke¹, Claudine Lamoth¹, Lucas van der Woude¹, Rob den Otter¹

¹University Medical Center Groningen

P3-B-6 *Combined study of segmental movements and motion of the centre of mass during adaptation on a split-belt treadmill*

Luigi Catino¹, Chiara Diletta Malloggi², Luigi Tesio²

¹Università degli Studi di Milano, ²IRCCS Santa Lucia Foundation

P3-B-7 *Perceptions of induced temporal gait asymmetry in healthy adults*

Lucas Crosby¹, Jessica Grahn², Joyce Chen¹, Kara Patterson¹

¹University of Toronto, ²Brain & Mind Institute - Western University

P3-B-8 *Retention of entrained auditory fractal patterns during gait*

Vincenzo Di Bacco¹, Jeevaka Kiriella¹, Kristen Hollands², William Gage¹

¹York University, ²University of Salford

P3-B-9 *A new approach using electrical muscle stimulation to elucidate sensorimotor adaptation in human postural control system*

Shota Hagio¹, Anvar Azat¹, Daichi Nozaki¹

¹University of Tokyo

P3-B-10 *Cortical correlates of gait adaptation to walking with a transfemoral dummy prosthesis*

Vera Kooiman¹, Vivian Weerdesteyn¹, Helco van Keeken², Natasha Maurits³, Teodoro Solis-Escalante¹

¹Radboud University Medical Center, ²University of Groningen, University Medical Center Groningen,

³University Medical Centre Groningen, University of Groningen

P3-B-11 *Retention, savings and interlimb transfer of reactive gait adaptations in humans following unexpected perturbations*

Christopher McCrum¹, Kiros Karamanidis², Paul Willems¹, Wiebren Zijlstra³, Kenneth Meijer¹

¹Maastricht University, ²London South Bank University, ³German Sport University Cologne

P3-C-12 *Ability to change gait speed in older adults aged 60 to 102 years old*

Daniela Abreu¹, Paola Magnani¹, Renato Freire Júnior¹

¹University of São Paulo

P3-C-13 *Effect of postural training in age-related macular degeneration subjects*

Hortense Chatard¹, Laure Tepenier², Talal Beydoun², Olivier Offret², Sawsen Salah², José-Alain Sahel³, Saddek Mohand-Said³, Maria Pia Bucci⁴

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³Sorbonne University, Institut de la Vision, Centre Hospitalier National d'Ophtalmologie des Quinze-V, ⁴Hopital Robert Debré

P3-C-14 *Normative data of turning parameters in a large cohort of older adults using wearable sensors a four-year longitudinal study*

Morad Elshehabi¹, Minh Pham¹, Clint Hansen¹, Elke Warmerdam¹, Susanne Nussbaum², Daniela Berg¹, Walter Maetzler¹

¹Christian-Albrechts-University of Kiel, ²University of Tuebingen

P3-C-15 *Regional associations of grey matter volume with gait variability-the Tasmanian Study of Cognition and Gait*

Oshadi Jayakody¹, Monique Breslin¹, Richard Beare², Velandai Srikanth², Helena Blumen³, Michele Callisaya¹

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P3-C-16 *Healthy older adults regulate lateral stepping in destabilizing environments*

Jonathan Dingwell¹, Meghan Kazanski¹, Joseph Cusumano¹

¹Pennsylvania State University

P3-C-17 *Do falls or fragility predict fracture in Māori and non-Māori in advanced age; LiLACS NZ*

Ngaire Kerse¹, Ruth Teh¹, Leah Palaper¹, Oliver Menzies¹, Catherine Bacon¹

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P3-C-18 *Adherence to a programme has greater impact on function and behavioural complexity improvement than group allocation in young seniors at risk of functional decline*

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P3-C-19 *Gait speed assessed by a 4-meter walk test is not representative of daily-life gait speed in community-dwelling adults*

Mirjam Pijnappels¹, Jeanine Van Ancum¹, Kimberley van Schooten², Nini Jonkman¹, Bas Huijben³, Rob Van Lummel³, Carel Meskers⁴, Andrea Maier¹

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P3-C-20 *The effect of optic flow stimuli on standing balance in young and older people with low and high fall risk*

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P3-C-21 *Associations between mobility and dementia subtypes in nursing home residents*

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P3-C-22 *Consistency and test-retest reliability of stepping tests designed to measure self-perceived and actual physical stepping ability in older adults*

Roel Weijer¹, Marco Hoozemans¹, Jaap van Dieën¹, Mirjam Pijnappels¹

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P3-D-23 *Stiff-knee gait: effects of knee restriction in the gait of non-impaired individuals*

Ana Barela¹, Odair Ramirez¹, Dinah Santana¹, Melissa Celestino¹, Valeriya Gritsenko², Sergiy Yakovenko², José Barela³

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P3-D-24 *The effects of varying midsole cushioning in footwear on gait in females with multiple sclerosis*

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P3-D-25 *Anticipatory postural adjustment for an accurate step*

Masahiro Shinya¹, Hiroki Yamada¹

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P3-D-26 *Motion patterns that cause the increase of integrated knee muscle torque in individuals with knee osteoarthritis*

Moeka Sonoo¹, Tsutomu Fujino², Keisuke Kubota¹, Shunsuke Kita¹, Hiroki Hanawa¹, Keisuke Hirata¹, Takanori Kokubun¹, Naohiko Kanemura¹

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P3-D-27 *The effect of self-paced and fixed speed treadmill walking on the energetic cost of transport*

Kyra Theunissen¹, Guy Plasqui¹, Peter Feys², Annelies Boonen¹, Annick Timmermans², Pieter Meyns², Kenneth Meijer³

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P3-D-28 *Are a few millimeters added under the big toe enough to improve postural control in elite handball players?*

Frédéric Viseux¹, Philippe Villeneuve², Rodolfo Parreira³, Franck Barbier¹, Antoine Lemaire⁴, Sebastien Leteneur¹

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P3-E-29 *The effect of walking speed on cortical activity in young and older adults*

Lisa Alcock¹, Rodrigo Vitorio², Samuel Stuart³, Lynn Rochester⁴, Annette Pantall¹

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P3-E-30 *Parkinson's disease affects neural activation during continuous alterations to the split-belt treadmill: An [18F] FDG PET Study*

Dorelle Hinton¹, Alexander Thiel¹, Laurent Bouyer², Jean-Paul Soucy¹, Caroline Paquette¹

¹McGill University, ²Université Laval

P3-E-31 *Readiness potential of gait initiation recorded with mobile EEG*

Nadine Jacobsen¹, Stefan Debener¹

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P3-E-32 *Single-session transcranial direct current stimulation alters the cortical response to dual task walking in functionally-limited older adults-a pilot study*

Azizah Jor'dan¹, Hagar Bernard-Elazari², Anat Mirelman², On-Yee Lo³, Jeffrey Hausdorff², Brad Manor³

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P3-E-33 *Activity in the sensorimotor cortex during action observation of walking combined with motor imagery*

Naotsugu Kaneko¹, Hikaru Yokoyama², Yohei Masugi³, Katsumi Watanabe⁴, Kimitaka Nakazawa¹

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P3-E-34 *Functional near infra-red spectroscopy neuroimaging of prefrontal cortex in Parkinson's disease during cognitive tasks under different postures.*

Graham Kerr¹, Mark Muthalib², Roger Pegoraro¹, Luisa Roeder¹, Ian Stewart¹, Simon Smith³

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P3-E-35 *Brain activation during real-time walking post-stroke: systematic review*

Shannon Lim¹, Dennis Riley Louie¹, Janice Eng¹

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P3-E-36 *Resting state functional connectivity of normal and dual-task walking in healthy older adults*

On-Yee Amy Lo¹, Mark Halko², Victoria Poole¹, Junhong Zhou³, Lewis Lipsitz¹, Brad Manor³

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P3-E-37 *Prefrontal and motor cortical activity during stepping tasks in older people at low and high risk of falling*

Paulo Pelicioni¹, Stephen Lord¹, Nigel Seng¹, Bethany Halmy¹, Daina Sturnieks¹, Rui Liu¹, Jasmine Menant¹

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P3-E-38 *The neural correlates of discrete gait characteristics in ageing: A structured review*

Joanna Wilson¹, Liesl Allcock², Riona Mc Ardle¹, John-Paul Taylor¹, Lynn Rochester³

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P3-E-39 *Cortical muscle synergy representations reveal functional modulation as a function of short-term balance training*

Coen Zandvoort¹, Jaap van Dieën¹, Nadia Dominici¹, Andreas Daffertshofer¹

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P3-F-40 *Gait as a potential marker of cognitive decrements in Type 2 Diabetes (T2DM): Early results from the ENBIND study*

Adam Dyer¹, Isabelle Killane², Benjamin Campbell², Killian Tobin², Richard Reilly¹, Isabella Batten¹, Nollaig Bourke¹, James Gibney¹, Sean Kennelly¹

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P3-F-41 *Gait as a signature of cognitive impairment and dementia disease subtype*

Riona Mc Ardle¹, Brook Galna¹, Alan Thomas¹, Lynn Rochester²

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P3-F-42 *Association of gait domains and incident falls in mild cognitive impairment: Results from the gait and brain study*

Frederico Pieruccini-Faria¹, Yanina Sarquis-Adamson¹, Manuel Montero-Odasso¹

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P3-F-43 *Older people with dementia have reduced daily-life activity and impaired daily-life gait when compared to age-sex matched controls*

Morag Taylor¹, Matthew Brodie¹, Kimberley van Schooten¹, Kim Delbaere¹, Jacqueline Close¹, Narelle Payne¹, Lyndell Webster¹, Jessica Chow¹, Garth McInerney¹, Susan Kurrle², Stephen Lord¹

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P3-G-44 *The effects of virtual reality-induced postural threat on performance of a walking balance task.*

Amir Boroomand-Tehrani¹, Andrew Huntley², David Jagroop², Jennifer Campos², Kara Patterson¹, Luc Tremblay¹, Avril Mansfield²

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P3-G-45 *Move aside: Approach-avoidance theories scrutinized*

Daniëlle Bouman¹, John Stins¹, Peter Beek¹

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P3-G-46 *Priming distorts sense of instability during postural control*

Adolfo Bronstein¹, Patricia Castro¹, Sami Mahmoud², Efstratia Papoutselou¹, Constanza Fuentealba³, Qadeer Arshad¹

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P3-G-47 *Patterns of dual-task interference at hospital discharge post stroke*

Jody Feld¹, Prudence Plummer¹

¹University of North Carolina at Chapel Hill

P3-G-48 *The effect of age and anxiety on objective and subjective instability*

Patricia Castro¹, Diego Kaski², Richard Ibitoye¹, Marco Schieppati³, Michael Furman¹, Qadeer Arshad¹, Adolfo Bronstein¹

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P3-G-49 *The nature of motor-cognitive relationship beyond age and disease*

Inbal Maidan¹, Preeti Sunderaraman², Eran Gazit¹, Anat Mirelman¹, Yaakov Stern², Jeff Hausdorff¹

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P3-G-50 *Fear of heights saturates 20 to 40 meters above ground*

Max Wühr¹, Katharina Breitkopf¹, Julian Decker¹, Gerado Ibarra¹, Doreen Huppert¹, Thomas Brandt¹

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P3-G-51 *The influence of virtual height on visually evoked balance responses*

Emma Nielsen¹, Taylor Cleworth², Mark Carpenter¹

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P3-H-52 *Tumors of cerebellum effect on saccadic system and gait*

Alina Aizenshtein¹, Marina Shurupova¹, Vladimir Kasatkin¹, Dmitriy Skvortsov², Alexander Karelin¹

¹Dmitry Rogachev National Research Center of Pediatric Hematology, Oncology and Immunology, ²Federal Research and Clinical Centre of Russia's Federal Medical-Biological Agency (FNKC FMBA)

P3-H-53 *Daily variation in executive function predicts daily variation in dual task walking performance in older adults*

Sarah Allen¹, Junhong Zhou¹, Alexa Ludington¹, Bonnie Wong¹, Brad Manor¹

¹The Harvard Medical School

P3-H-54 *Effects of discrete visual cues on anticipatory eye movement and segment rotation during walking turns in neurotypical young adults and persons with Parkinson's disease*

Tyler Baker¹, Jenna Pitman², Adam Johnston¹, Andrew Godbout¹, Rebecca Reed-Jones¹

¹University of Prince Edward Island, ²University of Guelph

P3-H-55 *Modification of gait intralimb coordination: objective comparison of hip-knee cyclograms of individuals with incomplete spinal cord injury vs healthy subjects*

Maude Barreau¹, Manuel Jose Escalona Castillo¹, Alexandre Tapin¹, Martin Vermette², Dany H. Gagnon¹, Cyril Duclos¹

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P3-H-56 *Walking speed choices among married couples: Middle-aged and older adults walk slower when walking with their partner*

HyeYoung Cho¹, Anna Forster¹, Samuel Hatala¹, Manuel Ochoa¹, Sharon Christ¹, Melissa Franks¹, Elizabeth Richards¹, Shirley Rietdyk¹

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P3-H-57 *Variability of the inter-joint coordination during grade walking*

Arthur Dewolf¹, Patrick Willems¹

¹Universite catholique de Louvain

P3-H-58 *Effect of voluntary gaze movement on gait steering control*

Felix Dollack¹, Monica Perusquia-Hernandez¹, Hideki Kadone¹, Kenji Suzuki¹

¹University of Tsukuba

P3-H-59 *How much does pregnancy affect female's gait pattern?*

Wanda Forczek¹, Yury Ivanenko², Marcin Salamaga³, Agata Maslon¹, Marta Curylo¹, Barbara Fraczek¹, Agnieszka Suder¹

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P3-H-60 *Looking downward while walking is more challenging than looking forward for ambulatory chronic stroke patients*

Yu-Chu Hsueh¹, Pei-Yun Lee², Pei-Yun Lee², Chih-Hung Chen¹, Hui-Yu Tseng³, Sang-I Lin¹

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P3-H-61 *Postural sway in young adults with and without chronic low back pain*

Karen Lomond¹, Nick Paselk², Nilanthy Balendra, Burkhardt Zachery², Phillion Brooke², Jennifer Sansom²

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P3-H-62 *Effect of arm motion on postural strategies during uphill and downhill walking*

Mary Elise MacDonald¹, Allen Hill¹, Julie Nantel¹

¹University of Ottawa

P3-H-63 *The path curvature of the body centre of mass during walking as an index of balance control in patients with Multiple Sclerosis*

Chiara Diletta Malloggi¹, Luigi Catino², Viviana Rota¹, Laura Perucca¹, Stefano Scarano¹, Luigi Tesio¹

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P3-H-64 *Older adults adopted a more conservative strategy to step into a hole when compared to the task of stepping down a curb*

Renato Moraes¹, Luciana Santos¹, Rosangela Batistela¹

¹University of São Paulo

P3-H-65 *Differences in pre-season postural control based on sport type*

John Palazzolo¹, Daniel Goble², Jeff Labban¹, Scott Ross¹, Donna Duffy¹, Christopher Rhea¹

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P3-H-66 *Walking with large axial pelvis rotations causes changes in axial thorax-pelvis coordination as observed in low back pain*

Maarten Prins¹, Luca Cornelisse², Onno Meijer², Peter van der Wurff¹, Sjoerd Bruijn², Jaap van Dieën²

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P3-H-67 *Negative effects of cognitive interference and altered sensory input on balance in Huntington's disease*

Nicollette Purcell¹, Jennifer Goldman¹, Bichun Ouyang¹, Bryan Bernard¹, Joan O'Keefe¹

¹Rush University Medical Center

P3-H-69 *Analysis of center of mass velocity during dual-task in fallers and non-fallers elderly: gait combined with prehension task during avoidance of an obstacle*

Natalia Rinaldi¹, Janine Carvalho Camargos¹, Leticia Avellar¹, Anselmo Frizera¹

¹Federal University of Espirito Santo

P3-H-70 *Motor flexibility during locomotion: an important component of functional mobility in older adults*

Noah Rosenblatt¹, Christopher Hurt², Nils Eckardt³

¹Rosalind Franklin University of Medicine and Science, ²University of Alabama, Birmingham, ³University of Oldenburg

P3-H-71 *Landing under conditions of height-induced threat*

Bénédicte Schepens¹, M J Luu², Mark Carpenter²

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P3-H-72 *The modulation of trunk coordination for various step widths*

Hai-Jung (Steffi) Shih¹, Kornelia Kulig¹

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P3-H-73 *Can a fractal visual motion cue modulate postural sway complexity?*

Harris Sotirakis¹, Nicholas Stergiou², Dimitrios Patikas¹, Vassilia Hatzitaki¹

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P3-H-74 *Muscle activity in the affected leg of stroke patients can be manipulated by altering guidance offered to the unaffected leg during Lokomat walking*

Sylvana Weiland¹, Heleen Reinders-Messelink², Annemarijke Boonstra², Lucas van der Woude¹, Rob den Otter¹

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P3-I-75 *The motor control of running in children and their development*

Margit Bach¹, Andreas Daffertshofer¹, Nadia Dominici¹

¹Vrije Universiteit Amsterdam

P3-I-76 *Spatiotemporal gait characteristics in adolescent idiopathic toe walkers*

Rahul Soangra¹, Richard Beuttler¹, Caprice Hollandsworth¹, Shewta Chheda¹, Afshin Aminian², Marybeth Grant-Beuttler¹

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P3-I-77 *Motor descriptors of locomotor performance in children and young adults with Developmental Coordination Disorder.*

Maria Cristina Bisi¹, Manuela Fabbri², Manuela Manfredini², Rita Stagni¹

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P3-I-78 *Balance and postural control in healthy children under 12 years of age: A systematic review*

Prasath Jayakaran¹, Katie Bromley¹, Hayley Foster¹, Nikko Kim¹, Karaitiana Smith¹

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P3-I-79 *Modular control of the leading and trailing limbs during obstacle clearance in children: Preliminary results*

Michael MacLellan¹

¹University of Prince Edward Island

P3-I-80 *Development of postural control during single-leg standing in children aged 3-10 years*

Hiroki Mani¹, Saori Miyagishima², Naoki Kozuka², Kenji Taneda¹, Takahiro Inoue¹, Kenta Takeda¹, Tadayoshi Asaka¹

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P3-J-81 *Feedforward motor control in developmental dyslexia and developmental coordination disorder: does comorbidity matter?*

Christine Assaiante¹, Fabien Cignetti², Marianne Vaugoyeau¹, Aurelie Fontan¹, Marianne Jover³, Brigitte Chabrol³

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P3-J-82 *Use of cluster analysis for gait classification of patients with syndrome of Dravet*

Ann Hallemans¹, Lore Wyers¹, Karen Verheyen¹, An-Sofie Schoonjans¹, Bertien Ceulemans², Patrica Van de Walle¹

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P3-J-83 *Concurrent validity of the Clinical Test of Sensory Interaction of Balance (CTSIB) Kids-BESTest criteria with laboratory center of pressure measures in children with and without cerebral palsy*

Leanne Johnston¹, Rosalee Dewar¹, Kylie Tucker¹, Andrew Claus¹, Rob Ware²

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P3-J-84 *Postural control in young adults with high-functioning Autism Spectrum Disorder (ASD): Distinguishing between general and sensory channel-specific impairments*

Rebekah Knox¹, Michail Doulmas¹

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P3-K-85 *A development of a bicycle-simulator-balance trainer with a novel system that provide customized unexpected perturbations during bicycling (the PerStBiRo system)*

Shani Batcir¹, Yaakov Livne¹, Rotem Lev Lehman¹, Guy Shani¹, Amir Shapiro¹, Itshak Melzer¹

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P3-K-86 *Immediate effect of a rehabilitation dog on weight-bearing and balance during early prosthetic training in individuals with vascular lower-limb amputation*

Cyril Duclos¹, Brendon Pham², Valérie Martin-Lemoyne³, Dany Gagnon²

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P3-K-87 *Effect of multi-tasking on gait and cognitive demands in adults with Alzheimer's dementia experienced in using a 4-wheeled walker*

Susan Hunter¹, Alison Divine², Humberto Omana¹, Walter Wittich³, Andrew Johnson¹, Keith Hill⁴

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P3-K-88 *Evaluation of corrective moment of measurement orthosis using CB brace for knee osteoarthritis*

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P3-K-89 *Development of an active mechanical harness system*

M Ann Reinthal¹, Debbie Espy¹, Lorenzo Bianco¹, Poya Khalaf¹, John DeMarco¹

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P3-K-90 *Plantar foot mechanoreceptor topography and lower limb muscle activity*

Kelly Robb¹, Stephen Perry¹

¹Wilfrid Laurier University

P3-K-91 *Spinal cord stimulation improves gait and modulates cortical activity in parkinsonian patients unresponsive to dopaminergic medication*

Olivia Samotus¹, Maria Alamos², Andrew Parrent¹, Mandar Jog¹

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P3-K-92 *How to encourage others: A perception-empathy biofeedback system for preventing falls in older adults*

Kazuhiro Yasuda¹, Yuki Hayashi¹, Hiroyasu Iwata¹

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P3-L-93 *Gait speed does not mediate the association between antidepressants and falls*

Orna Donoghue¹, Robert Briggs¹, Frank Moriarty², Rose Kenny¹

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P3-M-95 *Perturbation treadmill training: sustainable effects on clinical gait and postural stability symptoms as well as gait variability in Parkinson's disease*

Heiko Gaßner¹, Simon Steib², Sarah Klamroth², Cristian Pasluosta², Werner Adler², Bjoern Eskofier², Klaus Pfeifer², Jürgen Winkler², Jochen Klucken²

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P3-M-96 *Clinical outcome measures and the patient experience: what we can learn from conducting a process evaluation of a balance training intervention*

Breiffni Leavy¹, Conran Joseph¹, Hanna Johansson¹, Erika Franzén¹

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P3-M-97 *Effect of community-based brisk walking on enhancing motor and non-motor symptoms in people with Parkinson's disease*

Margaret Mak¹, Irene Wong¹

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P3-M-98 *Effects of strength training the hip abductor-adductor muscles on protective stepping: a pilot study*

Marie-Laure Mille¹, Maria Papaiordanidou², Guillaume Florent³, Karim El Koulali³, Jean-Louis Vercher³, Richard Fitzpatrick⁴

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P3-M-99 *Effect of muscle fatigue on postural stability and muscular activation of the supporting leg in soccer players' kicking*

Julia Oliveira¹, Caroline Souza¹, Daniel Coelho¹, Luis Teixeira¹

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P3-N-100 *Increased resilience of judoists to unpredictable large-magnitude perturbations to body balance*

Marina Betelli¹, Julia Oliveira¹, Patricia Takazono¹, Caroline Souza¹, Daniel Coelho¹, Luis Teixeira¹

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P3-N-101 *The effect of hearing loss on balance control - do hearing aids help?*

Nicoleta Bugnariu¹, Victoria Kowalewski¹, Rita Patterson¹, Linda Thibodeau²

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P3-N-102 *Synergistic ground reaction forces during double support while negotiating a curb*

Chuyi Cui¹, HyeYoung Cho¹, Ashwini Kulkarni¹, Shirley Rietdyk¹, Fabio Barbieri², Satyajit Ambike¹

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P3-N-103 *The effect of handrail cross-sectional design on centre of mass control during compensatory reach-to-grasp reactions to recover balance*

Philippa Gosine¹, Vicki Komisar², Alison Novak¹

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P3-N-104 *Falls and hip fractures: A biomechanically based model of sex and age specific risk assessment*

Andrew Hudson¹, Brian Street²

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P3-N-105 *Effects of thin plantar stimulation on postural coordination patterns*

Marc Janin¹, Emmanuelle Pivron Braquet², Frédéric Noé³

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P3-N-106 *Sex differences in predictors of subsequent falls in senior fallers: A prospective study of the Vancouver Falls Prevention Cohort*

Deborah Jehu¹, Jennifer Davis¹, Kristin Vesley¹, Winnie Cheung¹, Anna Egbert¹, Liu-Ambrose Teresa¹

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P3-N-107 *The frequency and circumstances of falls reported by unilateral lower limb prosthesis users*

Janis Kim¹, Matthew Major², Brian Hafner³, Andrew Sawers¹

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P3-N-108 *Effect of holding and grasping objects on risk for head impact during falls in older adults*

Vicki Komisar¹, Nataliya Shishov¹, Stephen Robinovitch¹

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P3-N-109 *Different types of tripping over an unexpected obstacle while walking on level ground - age and contributing factors*

Ilan Kurz¹, Shlomit Eyal², Inbal Maiden², Anat Mirelman³, Nir Giladi³, Jeff Hausdorff³

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P3-N-110 *Balance control in young healthy adults: Is relative performance across tasks indicative of a balance control characteristic?*

Gary Mangan¹, William McIlroy¹

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P3-N-111 *Anticipatory and reactionary postural movements during handrail grasping while forward walking in young and older adults*

Emily McIntosh¹, Lori Ann Vallis¹

¹University of Guelph

P3-N-112 *Compensatory rapid leg movements during unexpected loss of balance while walking - differences between fallers and non fallers*

Hadas Nachmani¹, Shani Batcir¹, Itzhak Melzer¹

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P3-N-113 *Fear of falling following a 12-week attentionally focused balance training intervention: Preliminary data*

Louisa Raisbeck¹, Lauren Higgins¹, Ruth Stout¹, Danielle Felsberg¹, Sean Cochran¹, John Palazzolo¹, Jeff Labban¹, Christopher K¹

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P3-N-114 *Assessing recovery time from unexpected loss of balance during walking in young and older adults*

Uri Rosenblum Belzer¹, Itzik Melzer², Shani Kimel-Naor¹, Lotem Kribus-Shmiel¹, Yotam Bahat¹, Gabi Zeilig¹, Meir Plotnik¹

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P3-N-115 *Re-enactment - a method to reproduce real-world fall events*

Kim Sczuka¹, Lars Schwickert¹, Clemens Becker¹, Jochen Klenk¹

¹Robert-Bosch-Krankenhaus

P3-N-116 *Designing optimal visual cues to increase stair climbing safety in young and older adults*

Timmion Skervin¹, Mark Hollands¹, Constantinos Maganaris¹, Andrew Schofield², Neil Thomas¹, Richard Foster¹

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P3-N-117 *Postural sway of the fallers based on retrospective and prospective studies with CTSIB*

Taeho Kim¹, Jinsoo Lee¹, Junggil Kim¹, Jeongwoo Seo¹, Jinseong Choi¹, Gyerae Tack¹

¹Konkuk University

P3-N-118 *A biomechanics-based investigation of walking aid use in gait laboratory and home settings*

Sibylle Thies¹, Alex Bates¹, Eleonora Costamagna¹, Laurence Kenney¹, Malcolm Granat¹, Jo Webb¹, Helen Dawes²

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P3-O-119 *Effects of dance on motor and non-motor symptoms of Parkinson's disease: A feasibility study*

Anna Carapellotti¹, Michail Doumas¹

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P3-O-120 *Enhanced postural control in experienced karate practitioners: Further evidence that practice does make perfect*

Amit Hadad¹, Natalie Ganz², Eran Gazit², Nathan Intrator¹, Jeff Hausdorff²

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P3-O-121 *Characteristics of people with stroke who withdraw from mobility and balance rehabilitation research studies.*

Kara Patterson¹, Jennifer Wong², Avril Mansfield²

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P3-P-122 *Collision avoidance between a walker and a person on an electric powered wheelchair*

Anne-Hélène Olivier¹, Nicolas Le Borgne², Marie Babel², Armel Crétual¹, Julien Pettré²

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P3-P-123 *Accounting for sensory noise is important to simulate stable and human-like control of perturbed standing balance*

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P3-Q-124 *The effect of dopaminergic medication on planned gait termination in Parkinson's disease*

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P3-Q-125 *Protective postural control with divided attention: Effects of Parkinson's disease*

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P3-Q-126 *Initial center of pressure position prior anticipatory postural adjustments during gait initiation in people with Parkinson's disease with freezing of gait*

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P3-Q-127 *The effect of a high intensity treadmill training and self-management program on physical activity in stroke patients undergoing rehabilitation: A RCT.*

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P3-Q-128 *Unpredictable gait perturbation training improves reactive responses, and gait stability functions contrary to gait training without perturbations in stroke individuals*

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P3-Q-129 *Feature selection of objective metrics of balance dysfunction in Parkinson's disease*

Naoya Hasegawa¹, Vrutangkumar Shah¹, Anjanibhargavi Ragothaman¹, Samuel Stuart¹, Patricia Carlson-Kuhta¹, John Nutt¹, Fay Horak¹, Tadayoshi Asaka², Martina Mancini¹

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P3-Q-130 *Influence of reactive balance training on responses to an unexpected slip in individuals with chronic stroke: A randomized controlled trial*

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P3-Q-131 *Motor training improves motor performance at the preclinical stage of degenerative cerebellar ataxia*

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P3-Q-132 *Influence of environmental context on locomotor skill learning in virtual reality in people with Parkinson's disease*

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P3-Q-133 *Executive functioning, muscle power and reactive balance are major contributors of gait adaptability in people with Parkinson's disease*

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P3-Q-134 *Diurnal systematic variance of gait during normal daily monitoring*

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P3-Q-135 *Objective quantifiable assessment of nocturnal movements in patients with Parkinson's disease using a wearable sensor*

Anat Mirelman¹, Inbar Hillel¹, Lynn Rochester², Bastiaan Bloem³, Laura Avanzino⁴, Alice Nieuwboer⁵, Inbal Maidan¹, Shirley Shiratzki¹, Talia Herman¹, Jesse Cederbaum⁶, Nir Giladi¹, Jeff Hausdorff¹

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P3-Q-136 *Evaluation of gait parameter thresholds to distinguish idiopathic Parkinson's disease from atypical parkinsonism using instrumented gait analysis*

Ken Möhwald¹, Julian Decker², Max Wuehr², Roman Schniepp²

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P3-Q-137 *Persons with MS exhibit declines in upper body control during walking*

Steven Morrison¹, Cortney Armitano¹, Corey Rynders², Jake Sosnoff³

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P3-Q-138 *Effect of different exercise regimens on walking performance in people with multiple sclerosis*

Klara Novotna¹, Lucie Sucha¹, Petr Reznicek¹, Lukas Sobisek², Eva Kubala Havrdova¹

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P3-Q-139 *Fast paced gait may be more discriminating than dual tasking for detecting severity of gait and turn deficits in Fragile X-Associated Tremor/Ataxia Syndrome (FXTAS)*

Joan O'Keefe¹, Danielle Carns¹, Joseph Guan¹, Erin Robertson¹, Timothy Tung¹, Nicollette Purcell¹, Elizabeth Berry-Kravis¹, Deborah Hall¹

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P3-Q-140 *Leukoaraiosis, an invisible factor contributes to balance and gait disorders after stroke*

Dominic Pérennou¹, Shenhao Dai², Céline Piscicelli¹, Emmanuelle Clarac², Patrice Davoine², Anne Chrispin², Andréa Kistner², Marie Jaeger², Olivier Detante², Monica Baciuc², Marc Hommel²

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P3-Q-141 *Balance control impairments in Fabry disease*

Philippe Perrin¹, Laetitia Peultier-Celli², François Feillet², Roland Jaussaud²

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P3-Q-142 *Development of an automated, instrumented composite index to quantify the performance of a 'freezing provoking test' in patients with Parkinson's disease*

Tal Reches¹, Eran Gazit¹, Moria Dagan², Talia Herman¹, Pablo Cornejo Thumm¹, Nir Giladi¹, Manor Brad³, Jeff Hausdorff¹

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P3-Q-143 *The impact of split-belt treadmill walking on freezing related gait features in Parkinson's disease*

Christian Schlenstedt¹, Jana Seuthe¹, Pieter Ginis², Markus Hobert¹, Nicholas D'Cruz², Alice Nieuwboer²

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P3-Q-144 *Global lower limb coactivation during gait in patients with cerebellar ataxia*

Mariano Serrao¹, Lorenzo Flori², Tiwana Varrecchia³, Carmela Conte⁴, Antonella Tatarelli², Carlo Casali¹, Francesco Pierelli¹, Francesco Draicchio², Alberto Ranavolo²

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P3-Q-145 *Clinical correlates of fatigue in patients with multiple sclerosis: Is mental fatigue more important than gait speed?*

Shirley Shema Shiratzky¹, Ruopeng Sun², Keren Regev¹, Arnon Karni¹, Jacob Sosnoff², Jeff Hausdorff¹, Anat Mirelman¹

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P3-Q-146 *Does transcranial direct current stimulation improve reaction times of people after stroke during balance perturbations, gait initiation, or voluntary movement?*

Wouter Staring¹, Milou Coppens¹, Alexander Geurts¹, Vivian Weerdesteyn¹

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P3-Q-147 *Protective stepping in multiple sclerosis: a pilot study*

Charles Van Liew¹, Leland Dibble¹, Grace Hunt², K. Foreman², Daniel Peterson¹

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P3-Q-148 *Walking speed improves with arm swing manipulation in people with Parkinson's disease*

Vinicius Zampier¹, Rodrigo Vitório¹, Victor Beretta¹, Diego Jaimes¹, Diego Orcioli-Silva¹, Lilian Gobbi¹

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P3-Q-149 *The effects of Parkinson's disease and essential tremor on the multiscale dynamics of hand tremor motion*

Junhong Zhou¹, Dongning Su², Shuo Yang², Ying Wang², Zhu Liu², Hua Pan², Tao Feng²

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P3-R-150 *Effects of repetitive head impacts on tandem gait performance over an ice hockey season*

Melissa DiFabio¹, Jessie Oldham², Thomas Buckley¹

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P3-R-151 *How persons with transtibial amputation regulate lateral stepping in destabilizing environments*

Jonathan Dingwell¹, Jonathan Rylander², Joseph Cusumano¹, Jason Wilken³

¹Pennsylvania State University, ²Baylor University, ³University of Iowa

P3-R-152 *Knee joint function and walking biomechanics in patients in acute phase anterior cruciate ligament (ACL) tear*

Sergey Kaurkin¹, Dmitriy Skvortsov¹, Alexander Akhpashev¹

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P3-R-153 *Function of the knee joint during walking before and after the meniscus resection*

Sergey Kaurkin¹, Dmitriy Skvortsov¹, Alexander Akhpashev¹

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P3-S-154 *Reduced balance stability in obese individuals is associated with low tactile sensibility of the feet soles*

Luis Teixeira¹, Jair Bueno¹, Caroline Souza¹, Daniel Coelho¹

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P3-S-155 *Investigation of the relationship between talking time on the mobile phone and neck proprioception, pain, and disability in the university students*

Gamze Yalcinkaya¹, Nurullah Buker¹, Yesim Sengul²

¹Health Sciences Institute, ²None

P3-U-156 *Does the selection of specific control strategy options during walking with a wearable robotic exoskeleton affect muscle synergies in healthy individuals?*

Manuel Escalona¹, Daniel Bourbonnais¹, Damien Le Flem¹, Michel Goyette¹, Cyril Duclos¹, Dany Gagnon¹

¹University of Montreal

P3-U-157 *Do high and low spinal cord injured subjects learn exoskeleton skills differently?*

Rosanne van Dijsseldonk¹, I.J.W. van Nes², H. Rijken², H. van de Meent³, N.L.W. Keijsers²

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P3-V-158 *A balance control model for vestibular loss subjects balancing on a tilting support*

Lorenz Assländer¹, Georg Hettich², Markus Gruber¹, Thomas Mergner³

¹University of Konstanz, ²Aesculab, ³Neurological University Clinics, Freiburg

P3-V-159 *Synergies between postural control, eye movements and cognitive involvement in precise visual tasks performed upright*

Cedrick Bonnet¹, Tanguy Davin¹, Jean-Yves Hoang¹, Stéphane Baudry²

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P3-V-160 *How does visual input affect the learning process of a balance skill?*

Orit Elion¹, Yotam Bahat², Itamar Sela³, Itzhak Siev-Ner⁴, Patrice (Tamar) Weiss³, Avi Karni³

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P3-V-161 *Obesity and gait: where/when body representation and its symbolic counterpart meet in the brain?*

Marie Fabre¹, Pascale Chavet¹, Théo Fornerone¹, Benjamin Juan¹, Olivier Abossolo², Fabrice Pardo³, Lionel Dany¹, Laurence Mouchnino¹

P3-V-162 *Postural control during induced stabilization of the center of mass and light touch*

Dasa Gorjan¹, Angéline Bellicha², Jernej Camernik¹, Wael Bachta², Jan Babic¹

¹Institute Jozef Stefan, ²Sorbonne Université - ISIR

P3-V-163 *Comparison of EMG parameters during uphill walking on a self-paced treadmill and outdoors*

Eunice Ibalá¹, Karen Chase¹, Nicholas Smith¹, Andrew Kerr¹

¹University of Strathclyde

P3-V-164 *Anticipatory postural adjustments while initiating a step on a flat surface or over an obstacle*

Hirofumi Ida¹

¹Jobu University

P3-V-165 *Central sensorimotor integration delays: does response latency to pseudorandom balance perturbations relate to reaction time?*

Douglas Martini¹, Lucy Parrington¹, Peter Fino², Robert Peterka¹, Laurie King¹

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P3-V-166 *Augmenting balance with tactile robotic feedback*

Raymond Reynolds¹, Lorenz Asslander², Craig Smith¹

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P3-V-167 *Foot sole cutaneous stimulation mitigates plantar flexor fatigue*

Simone Smith¹, Geoffrey Power¹, Leah Bent¹

¹University of Guelph

P3-V-168 *Lightbulb characteristics affect stepping biomechanics during stair descent in young and older adults*

Neil Thomas¹, Costis Maganaris¹, Thomas O'Brien¹, Richard Foster¹, Vasilios Baltzopoulos¹, Carolyn Lees¹, Timmion Skervin¹, Mark Hollands¹

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P3-V-169 *Performance of dual-tasking between arm movement and postural adjustments in subjects with stroke*

Yosuke Tomita¹, Nicolas Turpin², Daniele Piscitelli³, Mindy Levin³

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P3-V-170 *Unidirectional beta connectivity from motor cortex to muscle is involved in voluntary modification of locomotor muscle activity in humans*

Hikaru Yokoyama¹, Naotsugu Kaneko², Yohei Masugi³, Tetsuya Ogawa², Katsumi Watanabe⁴, Kimitaka Nakazawa²

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P3-W-171 *Straight vs curved walking: quantification of dynamic balance through an instrumented version of the Figure-of-8-Walk-Test*

Valeria Belluscio¹, Elena Bergamini¹, Yuri Russo¹, Amaranta Orejel Bustos¹, Marco Tramontano², Giuseppe Vannozzi¹

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P3-W-172 *Extending the centre of pressure to include handhold forces*

Emily King¹, James Borrelli², Vicki Komisar³, Brian Maki⁴, Alison Novak⁴

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P3-W-173 *Normative data for Balance Tracking System (BTrackS) modified Clinical Test of Sensory Integration and Balance (mCTSIB)*

Daniel Goble¹, Harshan Brar¹, Elise Brown¹, Charles Marks¹, Harsimran Baweja²

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P3-W-174 *Gaps between gait measured in the lab during usual and dual-task walking compared to free-living walking: evidence from 24/7 monitoring of older adults*

Inbar Hillel¹, Laura Avanzino², Lynn Rochester³, Ugo Della Croce⁴, Marcel Olde Rikkert⁵, Silvia Del Din⁶, Pieter Ginis⁷, Nir Giladi¹, Anat Mirelman¹, Jeff Hausdorff¹

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P3-W-175 *Development of a body balance assessment system with integrated virtual reality technology; construct validity testing in healthy older adults*

Yu Imaoka¹, Nadja Saba¹, Anne Vanhoostenberghe², Eling de Bruin³

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P3-W-176 *A novel functional ambulation toolkit to assess children with locomotor deficits*

Alexandra Leclerc-Valade¹, Jolin Jiang¹, Liav Lugassy¹, Zachary Weber¹, Elizabeth Dannenbaum², Claire Perez¹, Filomena Pietrangelo², Lora Salvo², Joyce Fung¹

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P3-W-177 *A do-it-yourself low-cost foot switch device to measure stride intervals*

Masahiro Okano¹, Tadao Isaka¹

¹Ritsumeikan University

P3-W-178 *Performance of surface and fine-wire electrodes over time when recording from the tibialis anterior in walking*

Joanna Reeves¹, Chelsea Starbuck¹, Wasseem Rafiq¹, Chris Nester¹

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P3-W-179 *Integrating technology into clinical practice for the assessment of balance and mobility: perspectives of exercise professionals practicing in retirement and long-term care*

Kathryn Sibley¹, Karen Van Ooteghem², Elizabeth Inness³, Avril Mansfield³, Jaimie Killingbeck⁴

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P3-W-180 *Accepting the null hypothesis: how and why?*

John Stins¹

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P3-W-181 *Muscle coordination changes with assistance from lumbar support exoskeleton*

Chun Kwang Tan¹, Hideki Kadone¹, Kousei Miura², Tetsuya Abe², Masao Koda², Yasushi Hada¹, Masashi Yamazaki¹, Yoshiyuki Sankai¹, Kenji Suzuki¹

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P3-W-182 *Application and evaluation of the extrapolated centre of mass as a clinical gait stability measure*

Albert Vette¹, Jeremy Hall¹, Juan Forero¹, Jacqueline Hebert¹

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P3-W-183 *Influence of taking a rest between measurement of stabilometry with eyes open and closed*

Tomoe Yoshida¹, Masahiko Yamamoto¹, Kazuo Ishikawa², Eigo Ohmi³

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P3-X-184 *Abnormal subjective vertical perception in patients with vestibular migraine*

Mitsuhiro Aoki¹, Hisamitsu Hayashi¹, Bunya Kuze¹

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P3-X-185 *Recovery of head trunk kinematics during functional movement tasks following unilateral vestibular hypofunction*

Lee Dibble¹, Brian Loyd¹, Grace Hunt¹, Mark Lester², Serene Paul³

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P3-X-186 *Vestibular precision and postural sway variability*

Adam Goodworth¹, Yulia Valko², Robert Peterka³, Daniel Merfeld⁴, Faisal Karmali⁵

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P3-X-187 *Risk of falling in bilateral vestibulopathy: How should we predict this?*

Nolan Herssens¹, Evi Verbecque², Wim Saeys¹, Luc Vereeck¹, Bieke Dobbels³, Julie Moyaert³, Vincent Van Rompaey¹, Ann Halleman¹

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P3-Y-188 *Virtual perturbations: Individual differences in static posture*

Robert McIlroy¹, Michael Barnett-Cowan¹

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P3-Y-189 *Visual exploration during walking and turning in mild traumatic brain injury and controls*

Samuel Stuart¹, Lucy Parrington¹, Doug Martini¹, Peter Fino², James Chesnutt¹, Laurie King¹

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P3-Y-190 *Measuring dynamic balance control in children with cerebral palsy*

Ruud Van der Weel¹, Audrey van der Meer¹

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