

How does peripheral neuropathy affect gait and balance in PD?

The University of Porto (UP) is located at the west coast of Europe by the Atlantic Ocean and is one of the most prestigious and largest higher Education and Research Institutions in Portugal, with over 30.000 Students, 13% of which are international students. The Institute of Biomedical Sciences Abel Salazar of the University of Porto (ICBAS) was established in 1975. Since then it has been a renowned teaching and research institution in the fields of medicine, applied biology, environment, veterinary sciences, food security and quality control. ICBAS currently occupies new facilities along with the Faculty of Pharmacy. The sharing process ICBAS and the Faculty of Pharmacy makes possible the existence of a health pole, in close collaboration with the Central Hospital of Porto (CHP), which includes Hospital de Santo António, Centro de Genética Médica and Centro Materno Infantil. The facilities consist in 41000m² of covered area with 11 amphitheatres and more than 25000m² of laboratories fully equipped with the latest technology in research area. The research carried out at the institute is highly interdisciplinary, due to the fact that the faculty houses ten different academic departments, in diverse fields such as anatomy, neuroscience, immuno-physiology and pharmacology, microscopy, molecular biology and veterinary clinics. The Neurology Department at CHP is a tertiary referral center, has a large outpatient facility for all types of movement and neuromuscular disorders with a long-standing research tradition in Parkinson's Disease and Familial Amyloid Polyneuropathy.

One PhD Student position is available. Our research group focuses on the study of peripheral neuropathy and wants to explore the neuropathological (small fiber neuropathy), neurophysiological and biomechanical aspects of gait in our ongoing cohort of 300 well-characterised PD patients as well as in matched controls. Standardised clinical assessment (Neuropathy Impairment Score), Unified PD Rating Scale, neurophysiological conduction studies, quantitative sensory assessment comprising small, large and autonomic fiber function (Quantitative Sensory Testing), assessment of personal and environmental parameters, and an exhaustive wearable sensor-based gait and balance assessment. This will allow us to define the diagnosis and stratify study participants by severity of sensory, motor and dysautonomic modalities. Based on such a comprehensive approach we will be able to determine, whether the presence of peripheral neuropathy influences gait and balance, and elaborate a composite score to assess the risk of falls.

The available dataset together with the neuropathological and neurophysiological evaluations will allow to explore the nature and relevance of peripheral neuropathy in Parkinson's disease.

The PhD candidate will be (i) collaborating in the clinical, neurophysiological and neuropathological assessment of the patients; (ii) developing an integrative database and establish a composite score to assess the influence of neuropathy in the risk of falling.

Requirements

- A completed MSc degree in the field of neuroscience, biology, biochemistry, movement science or other related fields;
- Strong skills in Histopathology and/or neurophysiology;
- Good skill in data analysis;
- Good social skills and experience in working with human participants;
- Good command of the English Language and good English writing skills;
- Willing to learn a variety of complementary techniques ranging from small fiber neuropathy characterization, sensor-based quantitative sensitive and autonomic neurophysiological testing to new statistical approaches;
- Good communication skills and ability to work in a multidisciplinary and international team.

For additional information please contact:

Prof. Luís F. Maia

e-mail: luis.filipe.maia@chporto.min-saude.pt

General eligibility criteria

- Researchers may be of any nationality.
- Researchers must not have resided or carried out their main activity (work, studies, etc.) in the country of the host for more than 12 months in the 3 years immediately prior to their recruitment.
- Applicants should have less than 4 years of postgraduate research experience

Applications

For more information and to upload your application (CV, letter of interest and contact information for potential references) visit www.keep-control.eu.

Deadline for application: June 30, 2017