



Quantified Self
Europe Conference
May 10-11 • 7th Auditorium



How not to fall

Sara Riggare



Karolinska Institute
Karolinska Institutet
Tekniska

Uppsala

Loss of sense of smell

Sweating

Dry mouth

Tiredness

Cognition

Pain

Depression

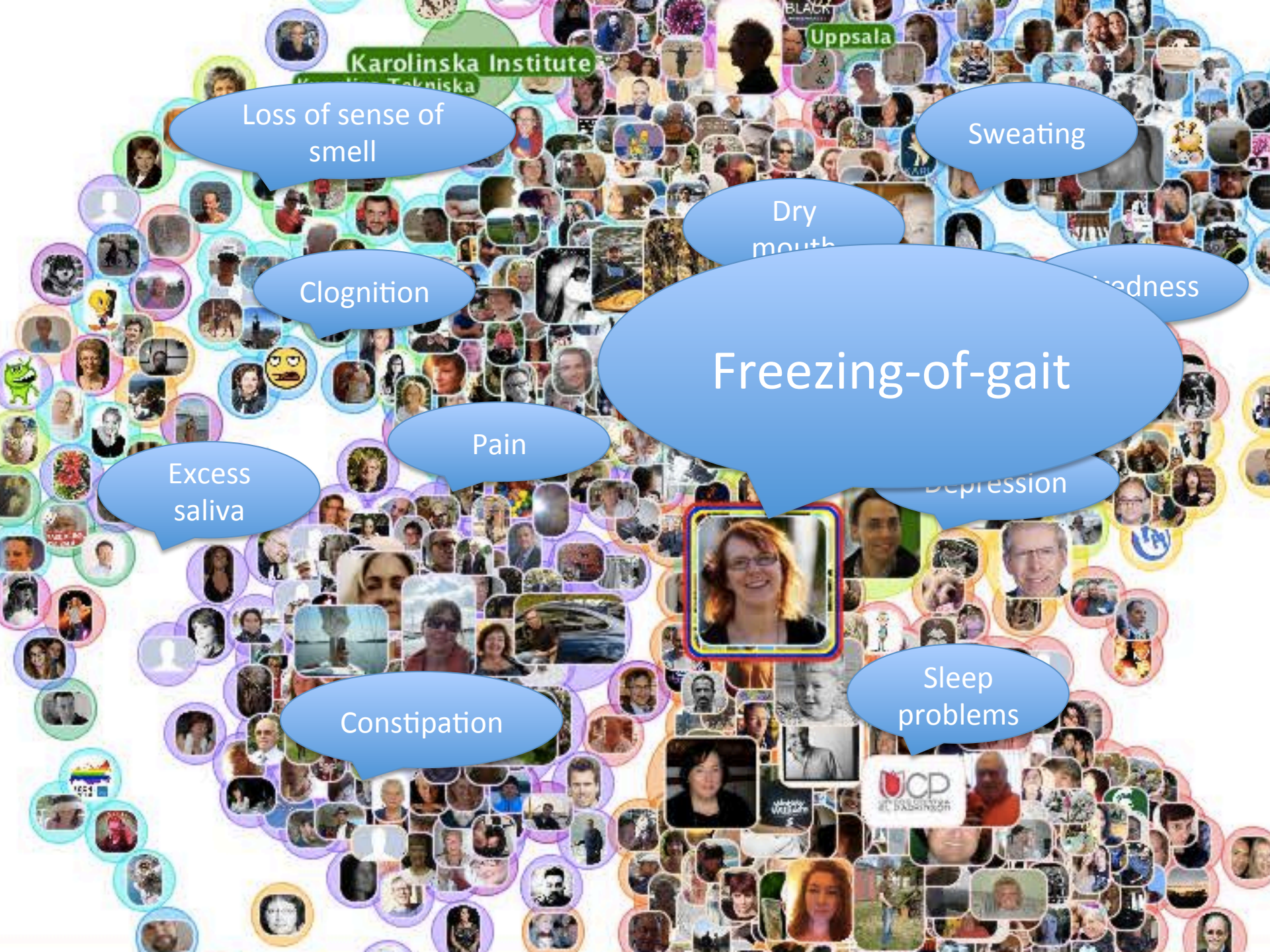
Excess saliva



Constipation

Sleep problems





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Loss of sense of smell

Sweating

Dry mouth

Cognition

Anger

Freezing-of-gait

Pain

Excess saliva

Depression

Constipation

Sleep problems



Why do I fall?

Sara

NOT PATIENT BUT IM-PATIENT

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UNCATEGORIZED

Bruised knees and bruised ego...

BY SARARIGGARE · OCTOBER 25, 2013 · [POST A COMMENT](#)



I have a new friend. She can be seen on the photo here and I picked her up in a shop the other day. A few days earlier I had no idea that I would feel the need to pick her up, but there you go, that's life I guess.

On Monday I went to work as usual, went to a few meetings in the morning, more or less 'business as usual'. For lunch, I thought I'd show my two colleagues the brand new auditorium and the lunch restaurant there, so we took a short walk and went into the building that looks like a giant glass bowl. Of course, if you give three engineers the choice of three different dishes for lunch, they will pick one each. We went looking for a table, sat down with salmon on a bed of fennel, a giant ball of mince of lamb with mash and a Swedish quiche on a bed of greens, and no, the woman in the party (me) did not have the quiche...

Having finished both the food and the mandatory Swedish 'fika' (coffee or tea plus something sweet, like a cookie or cake or similar), we took our trays and made our way through the spacious restaurant towards the place for dirty dishes and I found myself thinking: "hmmmm, if I were to see someone I recognise sitting at those tables, I would probably find myself freezing...". For those of you readers lucky enough to not understand the meaning of that sentence, here is a brief video from youtube (for the extra interested, look here). There is a lot to

TWITTER



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TWEETS FROM @SARARIGGARE

@skjonas Yes, VERY interesting! Thank you so much!!! 3 days ago

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Freezing-of-gait (FOG)

Review

Freezing of gait: moving forward on a mysterious clinical phenomenon

John G Nutt, Bastiaan R Bloem, Nir Giladi, Mark Hallett, Fay B Horak, Alice Nieuwboer

Lancet Neurol 2011; 10: 734–44

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Freezing of gait (FoG) is a unique and disabling clinical phenomenon characterised by brief episodic step or by extremely short steps that typically occur on initiating gait or on turning while walking. Patients which is a feature of parkinsonian syndromes, show variability in gait metrics between FoG episodes: reduction in step length with frequent trembling of the legs during FoG episodes. Physiological, functional and clinical–pathological studies point to disturbances in frontal cortical regions, the basal ganglia, a locomotor region as the probable origins of FoG. Medications, deep brain stimulation, and rehabilitation can alleviate symptoms of FoG in some patients, but these treatments lack efficacy in patients with a better understanding of the phenomenon is needed to aid the development of effective therapeutic

Introduction

Freezing of gait (FoG) is an often dramatic, episodic gait pattern that is common in advanced Parkinson's disease (PD), other parkinsonian syndromes, and microvascular ischaemic lesions.^{1–3} FoG highly impairs mobility, causes falls,^{4,5} and reduces quality of life.^{6,7} The pathogenesis of FoG is not understood and empirical treatments are of poor efficacy. For these reasons, FoG is an important clinical problem. It is also a challenge to our understanding of the physiology of normal locomotion in humans and the pathogenesis of gait disorders in patients.

In this Review, we describe the clinical features of and therapeutic approaches to FoG, discuss the physiology of locomotion in animals and humans, and consider hypotheses for the pathogenesis of FoG. This material is

clears the support surface; (2) alternate legs occurs at a frequency of 3–8 Hz;^{11–13} an increase in cadence with a decrease often precedes FoG;¹⁴ (4) a subjective feeling of being glued to the floor accompanies freezing; (5) FoG is commonly precipitated or relieved by various cues; and (6) FoG can be asymmetrical, affecting mainly one foot or being elicited more easily by turning in one direction.

If one or more of these associated features is universal to all episodes of FoG, they could provide important clues to its pathogenesis. Alternatively, some of these features could help with identification of different forms of the disease; that is, FoG might not be a single clinical phenomenon but represent several different syndromes with different underlying mechanisms. Along this line

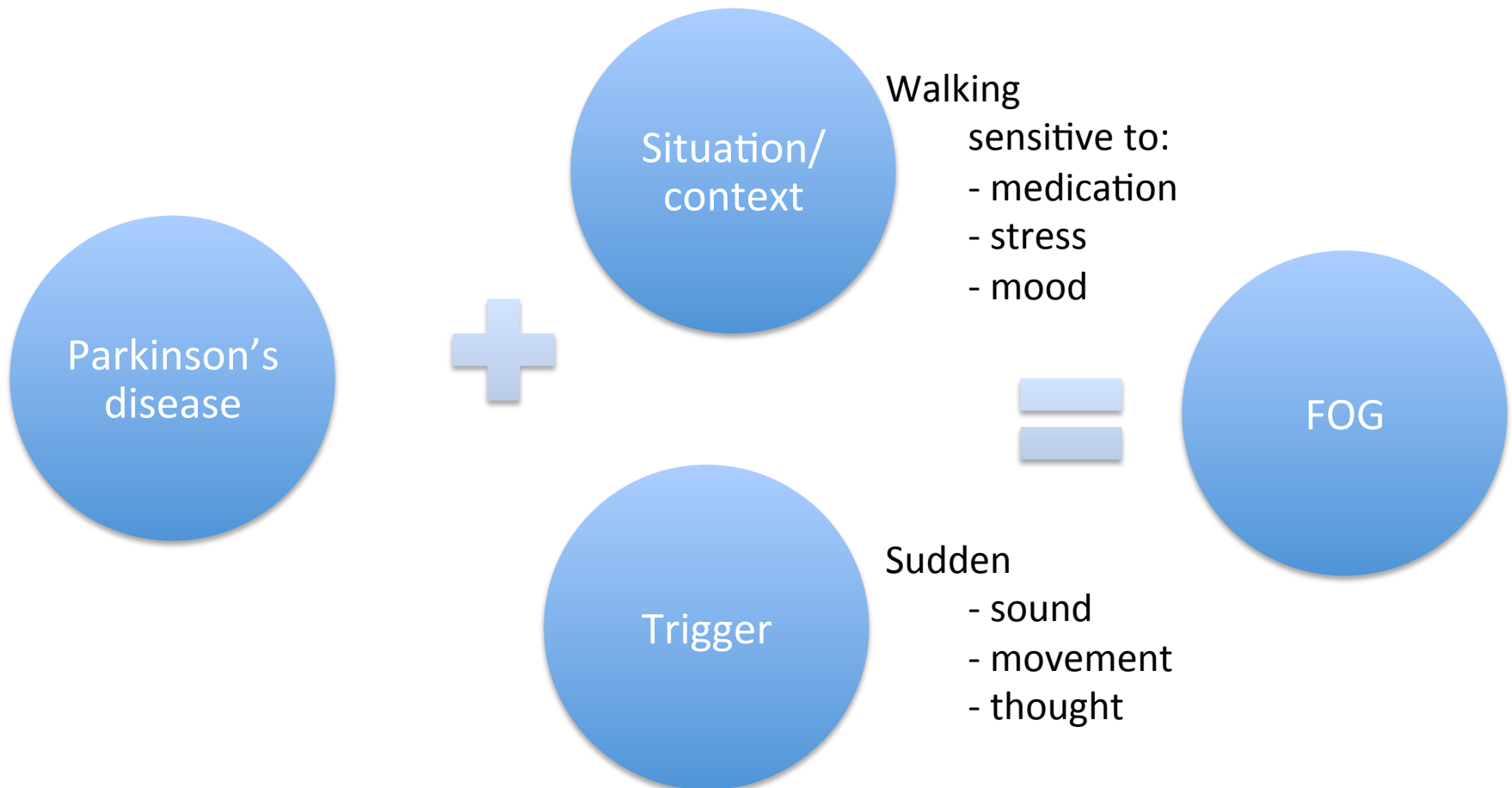
Clinical features

Although classic FoG is easily recognised, to define the phenomenon precisely is surprisingly difficult. The definition accepted at the 2010 workshop of clinicians and scientists interested in FoG was “brief, episodic absence or marked reduction of forward progression of the feet despite the intention to walk.”^{8,9} This definition includes episodes in which the patient cannot initiate gait (“start hesitation”) and arrests in forward progression during walking (“turn” and “destination” hesitation), as well as episodes of shuffling forward with steps that are millimetres to a couple of centimetres in length. The notion of FoG as an episodic phenomenon is important because it suggests transient disruptions of locomotor circuitry. Most commonly, FoG lasts a couple of seconds, but episodes can occasionally exceed 30 s.¹⁰ Rarely, FoG seems to be almost continuous, such that the patient is unable to generate any steps that are long enough to provide useful ambulation.

Several important features can accompany FoG: (1) the foot or toe does not leave the ground or only barely



Clearing the FOG



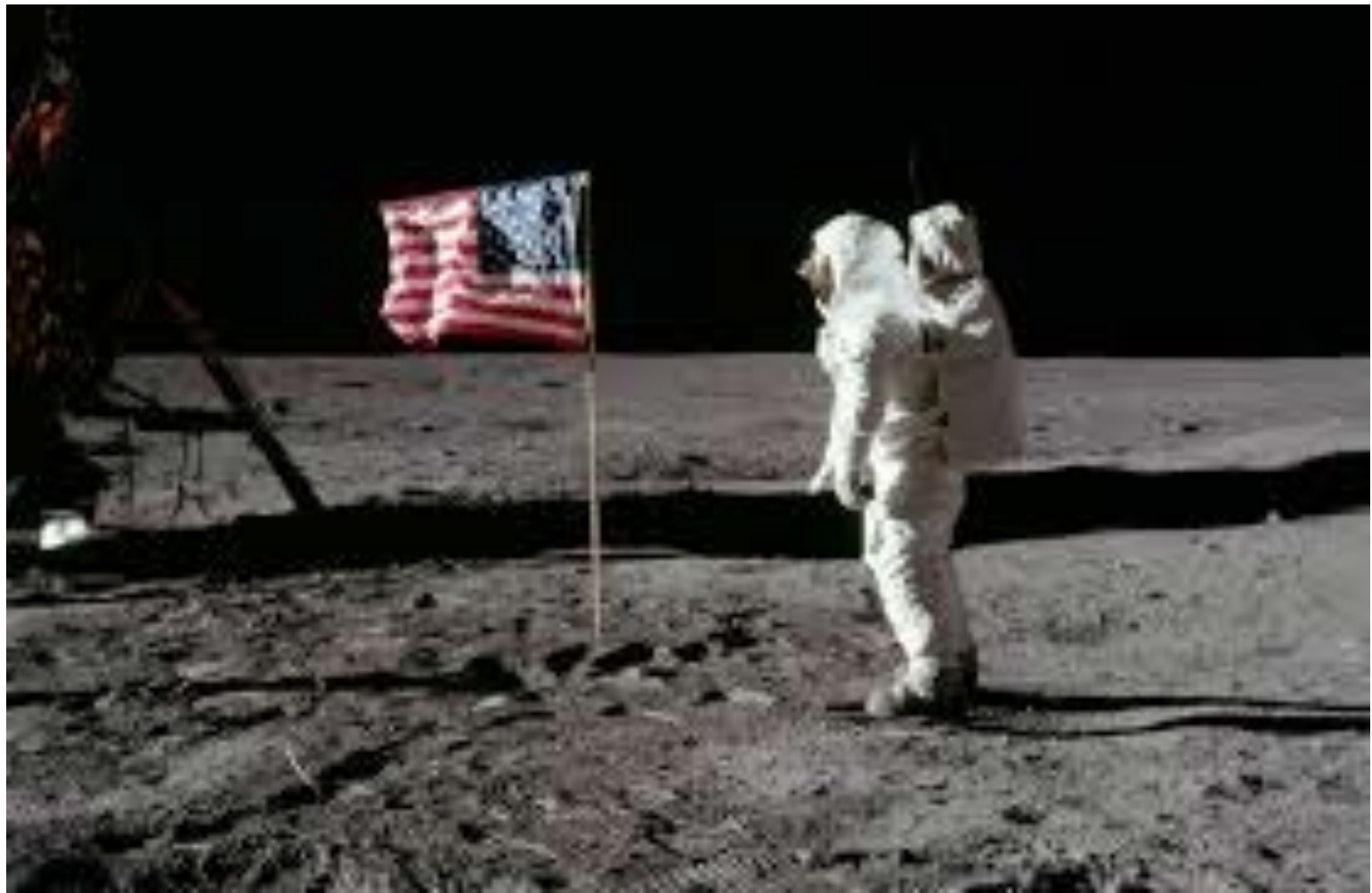


What did I do?

How did I do it?

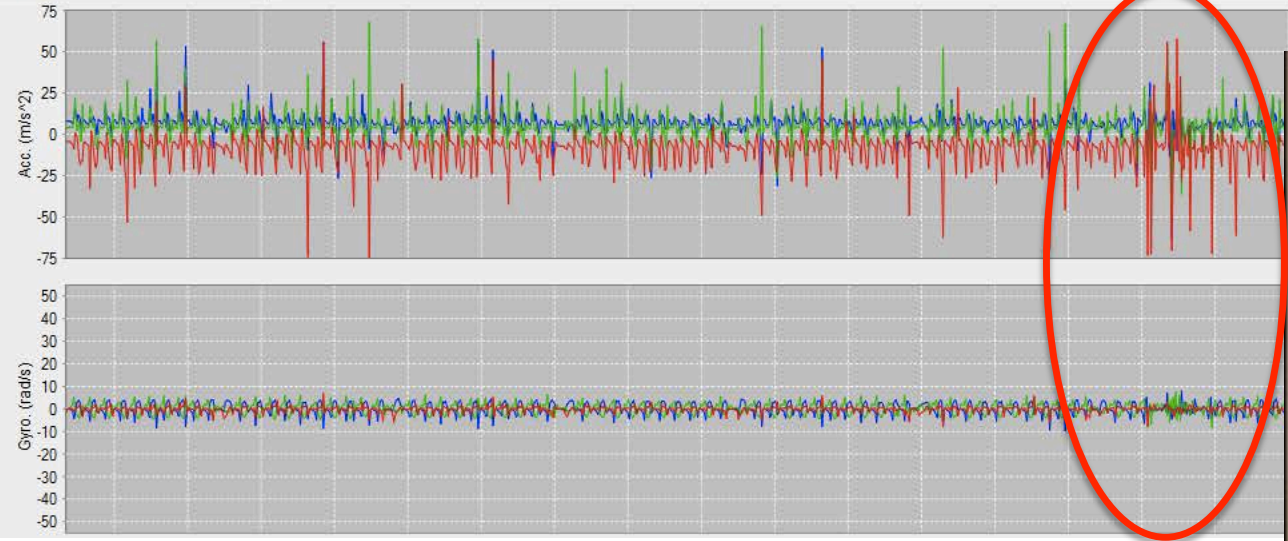



What did I learn?



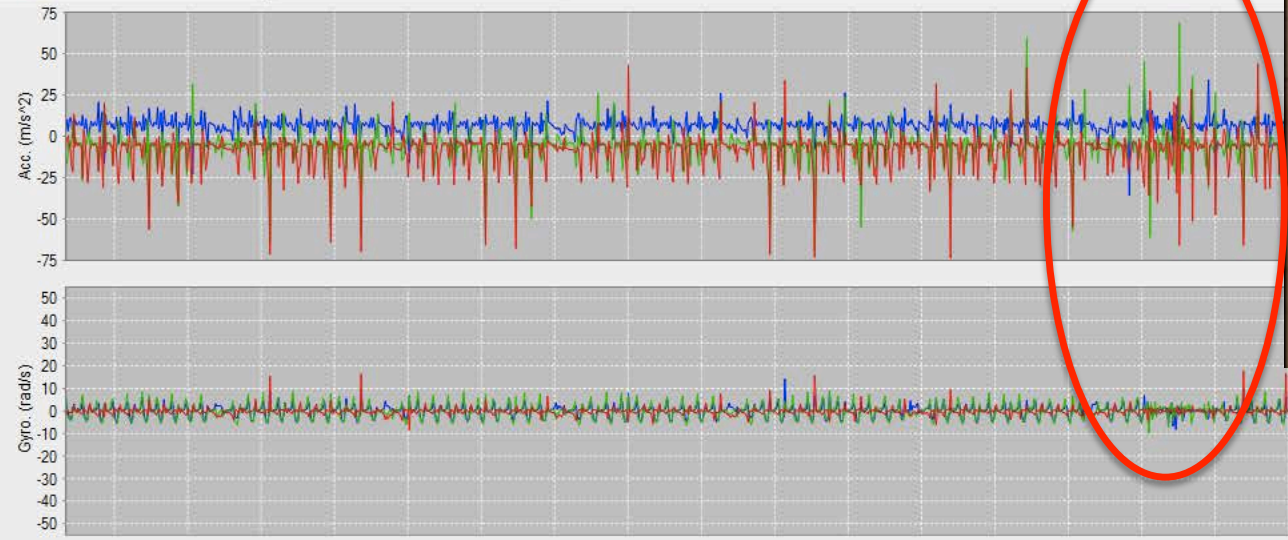
 Back To Mobility Lab View

Plotting Options
Select Monitor **#1237 : Right Foot** ▾



 Back To Mobility Lab View

Plotting Options
Select Monitor **#1244 : Left Foot** ▾



x
y
z

What did I learn?

- The QS community is AWESOME!!





Brief Report

Transcranial direct current stimulation for treatment of freezing of gait: A Cross-over study

Francesca Valentino MD^{1,†}, Giuseppe Cosentino MD^{1,†}, Filippo Brighina MD¹, Nicolò Gabriele Pozzi MD², Giorgio Sandrini MD², Brigida Fierro MD¹,

Giovanni Savetti MD^{1,*} and Claudio

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Issue



Movement Disorders

Early View (Online Version of Record published before

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ARTICLE TOOLS

Keywords:

Parkinson's disease; basal ganglia; gait disorders; motor cortex; brain stimulation

ABSTRACT

Background and objective

Progression of Parkinson's disease (PD) is frequently characterized by the occurrence of freezing of gait (FOG) representing a disabling motor complication. We aim to investigate safety and efficacy of transcranial direct current stimulation of the primary motor cortex of PD patients with FOG.

Methods

In this cross-over, double-blind, sham-controlled study, 10 PD patients with FOG persisting in "on" state underwent anodal and sham direct current stimulation for 5 consecutive days. Clinical assessment over a 1-month period was performed.

Results

A significant improvement of gait, as assessed by the Stand Walk Sit test, with reduction in number and duration of FOG episodes, along with a significant reduction in the Unified Parkinson's Disease Rating Scale score, were observed after anodal stimulation. Beneficial effects were more evident after the entire 5-day stimulation session, and persisted until the end of the observation period.

Conclusions

Anodal transcranial direct current stimulation of the motor cortex is safe and has therapeutic potential in PD patients with FOG. © 2014 International Parkinson and Movement Disorder Society

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