**ED28-004-e**

**Gastro-intestinal risk assessment in patients requiring NSAIDs for Osteoarthritis:**

**GIRANO**

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**Keywords:** Osteoarthritis; NSAID

Our study aimed at evaluating the distribution of the lower and upper GI risk profile in patients with OA who are candidates for NSAID treatment or are currently being treated with NSAID treatment in everyday practice. A total of 190 physicians provided data on 885 eligible patients. Sixty-four percent of the patients were female and mean age was 66.1 years, with 45.1% exceeding the age of 70. A history of symptomatic GI ulcer was observed in 18%, complicated GI ulcer in 3% and dyspepsia in 51% of the patients. With regard to medication use, 71% of these patients were already on NSAIDs and more than half used it for ≥ 30 days. In this population 17% were on SSRI, 31% on low dose aspirin and nearly 44% used PPI. Remarkably, 21% of patients used OTC medication for their OA as well.

**Conclusion.**– Current or candidate users of NSAIDs for OA are more than expected at high GI risk, and a careful assessment of the patient’s GI risk profile should be made before prescribing NSAIDs. Prescribers should tailor the type of NSAID they prescribe to the individual risk profile of the patient.

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**ED29-001-e**

**Body schema building during childhood and adolescence**

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**Keywords:** Body schema; Internal representations; Anticipation; Multisensory Integration; Childhood and Adolescence

In order to perceive and act in its environment, the individual’s body and its interactions with the sensory and social environment are represented in the brain. This internal representation of the moving body segments is labelled the body schema. Throughout life, body schema develops based on the sensory information used by the moving body and by its interactions with the environment including other people. Internal representations including body schema and representations of the outside world develop with learning and actions throughout ontogenesis and are constantly updated based on different sensory inputs. The aim of this review is to present some concepts and experimental data about body schema, internal representations and updating process during childhood and adolescence, as obtained using a neurosensory approach. From our developmental studies, it was possible to explore the slow maturation of the sensori-motor representation by examining the anticipatory control. By manipulating proprioceptive and visual information, which are at the heart of the construction of body schema, we wished to highlight notable differences between adolescents and young adults on both a postural and perceptual level, which confirms the late maturation of multisensory integration for central motor control.

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**ED29-002-e**

**Time-course of stance stabilization in response to visual or haptic inflow**

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**Keywords:** Stance stabilization; Sensorimotor integration; Processing time; Vision; Touch

Vision and touch stabilize our standing body. Little is known on the time-interval for the brain to process the sensory inflow. Latency and time-course of changes in postural control mode have now been measured following sudden addition or withdrawal of visual or haptic information. The activity of postural muscles and body sway adaptively decrease in response to the stabilizing information within a time-interval from sensory shift to decrease in EMG and body sway ranging from 0.5 to 1.5 in normal subjects. On removal of haptic or visual information, latencies of EMG and postural changes are even shorter, however longer than simple reaction-time responses. The finite amount of time from visual or haptic shift to stabilization suggests a time-consuming central integration process. The capacity of modifying balance control at relatively short intervals speaks in favour of a necessary coupling between vision, postural reference, and postural muscle activity, and of the swiftness of this sensory reweighing process. Blind are more rapid than sighted subjects in implementing the adaptive postural modifications when granted the haptic reference, possibly owing to cortical plasticity. These new findings may be relevant in the interpretation of sensorimotor integration problems and in the design of models of human balance.

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**Changes in postural control in hemiplegic patients after stroke performing a dual task**

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**Keywords:** Osteoarthritis; NSAID

Our study aimed at evaluating the distribution of the lower and upper GI risk profile in patients with OA who are candidates for NSAID treatment or are currently being treated with NSAID treatment in everyday practice. A total of 190 physicians provided data on 885 eligible patients. Sixty-four percent of the patients were female and mean age was 66.1 years, with 45.1% exceeding the age of 70. A history of symptomatic GI ulcer was observed in 18%, complicated GI ulcer in 3% and dyspepsia in 51% of the patients. With regard to medication use, 71% of these patients were already on NSAIDs and more than half used it for ≥ 30 days. In this population 17% were on SSRI, 31% on low dose aspirin and nearly 44% used PPI. Remarkably, 21% of patients used OTC medication for their OA as well.

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**ED30-001-e**

**Variability of human gait: Long-range autocorrelations and fluctuation magnitude of stride duration**

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**Keywords:** Osteoarthritis; NSAID

Human locomotion is a rhythmic process whose variability can be investigated in two different ways. The magnitude of the stride duration fluctuation can be addressed by classical mathematical methods (coefficients of variation) and are usually computed on about ten cycles. Fluctuation dynamics between strides can be characterized using the autocorrelation function computed by combining analysis of the Hurst exponent and of power spectral density over a large number
of consecutive cycles (≥ 512) (Crevecoeur, J Neurosci Methods 2010). These analyses show that stride duration does not fluctuate at random but in a very complex way. Indeed, consecutive strides are characterized by correlations that can span over a large number of strides reflecting a centrally controlled behavior. Long-range autocorrelations are present among stride duration variability on level ground and on treadmill (Bollens, Gait & Posture 2010). They are not influenced by gait speed and subject age whereas coefficients of variation were inversely related to walking speed and the age of the subjects (Bollens, Neuroscience 2012). Long-range autocorrelations seem robust, being influenced by neither dual task walking nor backward walking (Bollens, Ann Biomed Eng 2013). Fluctuation magnitude and dynamics could be complementary tools for more complete gait characterization, in research and in clinical practice.

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ED30-002-e
Assessment of persons with gait abnormalities in physical and rehabilitation medicine settings
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The first step in the assessment of patients with gait abnormalities in physical and rehabilitation medicine settings is a clinical examination based on the International Classification of Functioning, Disabilities and Health. Body structure, activities and participation, and environmental factors (physical and human factors) must all be assessed. Qualitative and quantified assessments of gait are part of the activity and participation evaluation. Scales are also used to assess gait activities. Gait assessment tools can be used in laboratory environments for kinematic, kinetic, electromyographic and energy consumption analysis and other tools, such as videotape and walkways, can be used in clinical practice, while ambulatory assessment tools can be used to analyse patients’ usual everyday activities. The aims of instrumental gait assessment are: to understand the underlying mechanisms and the aetiology of the disorders, to obtain quantified gait parameters, to define suitable therapeutic methods, and to follow the course of the disease.

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ED30-003-e
Gait abnormalities caused by disorders of the peripheral nerves
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There are a number of different gait abnormalities that can be caused by peripheral nerve disorders. This lecture will include discussion of the findings in disorders of the peroneal nerve, tibial/sciatic nerve, femoral nerve, proximal nerve disorders. This lecture will include discussion of the findings in disorders of the peroneal nerve, tibial/sciatic nerve, femoral nerve, proximal nerves/plexus, and in radiculopathy. There will be description of the gait abnormality, clinical presentation, compensatory strategies, and treatment. Bracing and adaptive equipment will be included where appropriate.

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ED30-004-e
Abnormal gait in patients with neurological pathologies
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Keywords: Clinical gait analysis; Limp; Neurological pathologies Knowledge about normal gait has improved considerably thanks to the use of movement analysis tools. This knowledge has led to a better understanding of gait abnormalities. The analysis of abnormal gait in patients with neurological pathologies requires information about the lesions and their development, the assessment of impairments and disabilities and the understanding of the compensatory strategies of the patients. The aim is to choose the right treatment for the patient in terms of drugs, prosthetics and orthotics, physical therapy and functional surgery with the aim of a functional improvement. It is therefore necessary to understand the effects of any treatment on the compensatory processes. In normal gait in adults, during the swing phase the limb has to be shortened and moved forward. During the stance phase, the lower limb has the support, propulsion and absorption functions. Gait abnormalities related to central or peripheral nervous lesions will be described here along with the corresponding compensatory strategies. It is necessary to know the exact features of normal gait to be able to analyse abnormal gait in terms of the impairments and compensatory strategies involved. The final goal of the treatment is to improve the patients’ ability to walk.

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ED31-001-e
The best prosthesis
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Keywords: Amputation; Prosthesis; Rehabilitation

Introduction.– In the last decade there has been a huge development of new components, both for lower and upper limb prosthesis. The manufacturers describe their technical characteristics. By using different advertising materials and also videos on their web pages to convince professionals and users that new components are much better. The clinical question is what is the best prosthesis for each individual?

Methods.– In the lecture the literature review of published articles will be done.

Results.– There is almost none existing evidence on different prosthetic components.

Discussion.– More good polycentric clinical studies are needed that will demonstrate the benefits of new components.

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ED31-002-e
Plantar fasciitis. From etiology to treatment
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Up to 10% of the population may present heel pain over the course of their lives, which underscores the importance of the familiarity with the diagnosis and treatment of plantar fasciitis and the associated risk factors. It’s a disease of overuse and/or inflammatory process of the plantar fascia. Symptoms typically appear near the calcanean origin of the fascia. It is the most common cause of pain in the barefoot. We can have: intrinsic causes, extrinsic causes, functional causes, overuse causes, there are a lot of aetiologies of heel pain and we talk about the differential diagnosis. We will talk about the treatment, including the treatment of the pain, the correction of the causes and the reeducation.

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ED31-003-e
Evidence based medicine in PRM, diagnosis and management of hand osteoarthritis (HOA)
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Keywords: Hand osteoarthritis; PRM; Diagnosis; Management

Introduction.– In this abstract, physical and rehabilitation medicine principles, diagnosis and management of HOA is outlined depending essentially on the recent Guidelines/Evidence Based Recommendations (E.B.R.) and literature.