

# 9<sup>th</sup> Global Neuroscience Conference

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### Neurogenic bladder dysfunction in Neurological disorders

Multiple sclerosis (MS) is an auto-inflammatory disease of the CNS that affects approximately 400,000 people in the United States alone and more than 2.1 million people worldwide. Lower urinary tract symptoms (LUTS) are present in 70–80% of MS patients, causing great discomfort and having a negative effect on the quality of the individual's social, occupational and sexual life. Neurogenic LUTS include urinary urgency, urinary incontinence, nocturia, urinary hesitancy; overflow incontinence, a sensation of incomplete emptying, urinary retention and a weak urinary stream. The most common symptom reported by MS patients in remission is urgency of micturition followed by urinary frequency. In approximately 10-15% of patients, bladder symptoms are present at the onset of MS when there may be few lesions identified in the spinal cord and/or brain. In patients with established MS, bladder symptoms are prevalent and often associated with symptoms of bowel and sexual dysfunction. Identification and development of urinary tract protective therapies in neurological diseases has proven to be a major challenge, because of an already substantial LUT compromise at the time of presentation to urologist. Therapeutic approaches for neurogenic LUTS primarily include anti-muscarinic drugs as well as intermittent self-catheterization to facilitate complete bladder emptying. Given the unfavorable side effect profile of these medications and poor persistence on therapy, as well as the burden of catheterization on a debilitated population, more innovative therapeutics are desperately needed. In the quest for therapeutics, a greater understanding of the pathophysiology and patterns of disease is also required.

### Biography

Anna Malykhina is an Associate Professor at the University of Colorado Denver. She directs a Neurourology laboratory focused on neurophysiology of the lower urinary tract and functional chronic pelvic pain disorders, with particular emphasis on the mechanisms underlying the processing of sensory nociceptive information, neurogenic bladder dysfunction in neurodegenerative disorders and mechanosensitivity of the overactive bladder. She is a Center Director for the Colorado P20 Center on Interdisciplinary Research in Benign Urology supported by the NIH grant (P20-DK097819). She is an active member of many international societies and serves on the review panels for the NIH and DoD study sections.

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