University of Houston - Biomedical Engineering Seminar

Friday, October 23, 2020, 12 noon

Via Zoom: https://uofh.zoom.us/j/92470065206

Assessment of Pelvic Floor Dysfunction Using High Density Surface EMG

Nick Dias

Abstract

Interstitial cystitis/Bladder pain syndrome (IC/BPS) negatively effects the life of as many as 8 million women in the United States. Symptoms of IC/BPS include voiding dysfunction, pain while urinating, and pelvic floor dysfunction (predominately hyperactivity). Up to 85% of women with IC/BPS are afflicted with pelvic floor muscle (PFM) hypertonicity. Innervation zone (IZ) targeted Botox injections have proven to alleviate symptoms, yet accurate injection to the IZ is not assured using current techniques. There is a lack of a technique to 1) non-invasively assess spatial hypertonicity patterns in the PFMs and 2) map the IZs of the PFMs. This seminar will discuss the application of high-density surface electromyographic techniques to develop IZ distributions and compare PFM activity in healthy controls, and in women with IC/BPS.

Biosketch

Nick Dias is a Ph.D Candidate in Dr. Yingchun Zhang's lab in the Department of Biomedical Engineering at the University of Houston. He earned his Bachelor of Science in Biomedical Engineering from the University of Houston. His doctoral research, in collaboration with Baylor College of Medicine and Washington University, has focused on the noninvasive assessment of pelvic floor muscle activity using high-density surface electromyography.