

Dance and virtual reality: a promising treatment for urinary incontinence in elderly women



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Virtual reality, dance and fun are not the first things that come to mind when we think of treating urinary incontinence in senior women. However, these concepts were the foundations of [a promising study](#) by Dr. Chantal Dumoulin, PhD, Canada Research Chair in Urogynaecological Health and Aging, a researcher at the Institut universitaire de gériatrie de Montréal, and an associate professor in the Physiotherapy Program of the Rehabilitation School at Université de Montréal, and her master's student,



Miss Valérie Elliott. Dr Eling D. de Bruin, Ph.D., researcher at the department of Health Sciences and Technology, Swiss federal Institute of Technology, Zurich, Switzerland collaborated in this study for his expertise in the use of exergame in geriatric rehabilitation. The results of their feasibility study were published in *Neurourology and Urodynamics*.

For the study, the researchers added a series of dance exercises via a video game console to a physiotherapy program for pelvic floor muscles. What were the results for the 24 participants? A greater decrease in daily urine leakage than for the usual program (improvement in effectiveness) as well as no dropouts from the program and a higher weekly participation rate (increase in compliance).

According to the researchers, fun is a recipe for success. “Compliance with the program is a key success factor: the more you practice, the more you strengthen your pelvic floor muscles. Our challenge was to motivate women to show up each week. We quickly learned that the dance component was the part that the women found most fun and didn't want to miss. The socialization aspect shouldn't be ignored either: they laughed a lot as they danced!” explained a delighted Chantal Dumoulin.

The dance period also served as a concrete way for women to apply pelvic floor muscle exercises that are traditionally static. “Dancing gives women confidence, as they have to move their legs quickly to keep up with the choreography in the video game while controlling their urine. They now know they can contract their pelvic floor muscles when they perform any daily activity to prevent urine leakage. These exercises are therefore more functional.”

Although a lot of research already employs different aspects of virtual reality, this is the first time that it has been used to treat urinary incontinence. This successful feasibility study opens the door to a randomized clinical trial.

The Incontinence & Aging Laboratory and Dr. Chantal Dumoulin

Chantal Dumoulin, PhD, is the director of the Incontinence & Aging Laboratory. She is a researcher at the IUGM Research Centre and an associate professor in the Physiotherapy Program at the School of Rehabilitation at Université de Montréal. She is also the Canada Research Chair in Urogynaecological Health and Aging. She focuses her research on urinary incontinence in older women to better understand, prevent and identify ways of addressing this condition.

About the IUGM

The IUGM has 452 short- and long-term beds and an outpatient centre, which includes one of the few clinics in the world that specializes in chronic pain management in the elderly. In Quebec, it is considered the leader in clinical practices, specialty care, health promotion, and knowledge development in senior health and aging. The IUGM has approximately 1300 staff members, physicians, researchers, and volunteers, all of whom specialize in care and services for seniors. The Research Centre is recognized as the largest French-speaking institute of its kind in the field of aging. A member of Université de Montréal's extensive network of excellence in health, the IUGM annually hosts hundreds of students, trainees and researchers who specialize in health and aging.

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