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## Dance appears to help Parkinson's patients – now scientists aim to find out why By GAYLE MacDONALD

Researchers are looking at why movement seems to bypass neurodegeneration that occurs in the brains of patients

It's hard to discern who is enjoying the dance class more – the 20 dancers with Parkinson's disease or the dance therapists who are their guides at a session this week at Canada's National Ballet School in Toronto.

The group is made up mostly of seniors – more than half are men – and they are both graceful and dignified on the floor, a sharp contrast to the image people may have of Parkinson's patients as slow-moving people who suffer from tremors and stilted mobility.

They stare intently at the smiling faces of their teachers, and an observer sees their relief to be part of a group that gives them emotional and physical respite from an uphill battle with an incurable, progressive disorder of the central nervous system. The disease afflicts 100,000 Canadians (including actor Michael J. Fox) and seven million people worldwide.

It's the halfway point of an ambitious 12-week study that will use brain scans of the participants to analyze why dance seems to bypass some of the neurodegeneration that occurs in the brains of Parkinson's patients. Much research has been done on the physical benefits of dance for people with the disease. Those studies have found that moving to music can have a calming affect on the majority of patients and make them less agitated. But relatively little hard data exist on why that happens, and what specific regions of the brain respond so well to dance, says Rachel Bar, a National Ballet School alumna who is part of the research team. "The objective of our study is to get a sense of what's unique in the brain [related to dance] and specific for people with Parkinson's disease."

The program also aims to improve the group's quality of movement – and life.

Anne McDonagh has been coming diligently every Tuesday and says it's the highlight of her week. "I've always liked dancing anyway because it loosens up all the muscles that tense up. It gives me energy and it's nice to be with people. The people who work here, the ballerinas, are just beautiful," she says.

At this particular session held earlier this week, the participants and their dance instructors are going through a routine that leads up to the so-called Hoedown/Showdown, a musical dance number that re-enacts strutting into a saloon, facial expressions exaggerated and joyful, while shooting off rifles, blowing out the gun and shouting, "Yee Haw!" It may sound hokey, but the group is game.

"We're really into it," says Bill Bartlett, 68, slapping his knee like a rootin' tootin' cowboy. A former chef at the Fairmont Royal York Hotel, he was diagnosed with Parkinson's 18 months ago. "It feels good to be around the support of other people dealing with the same challenges. This is a place where I feel comfortable, and I would never have imagined saying that in the National Ballet School."

The program is a multipronged collaboration of Canada's National Ballet School (NBS), Mark Morris Group's Dance for PD, Dancing with Parkinson's founder Sarah Robichaud, and two university researchers, Dr. Joseph DeSouza at York University and Bar, who is currently doing a master's in clinical psychology at Ryerson University.

Bar deliberately calls the program simply dance – not dance therapy – to encourage patients to forget, for the hour they come here each Tuesday, that they've got this progressive disease, and find release through movement.

"The word therapy puts it back in the medical realm," says Bar, who hopes to publish a report based on the brain-scan data with DeSouza this spring. "We already have a number of studies showing the positive effects of dance on people with Parkinson's by improving things like balance, gait, posture and other sorts of physical measurements. We hope to pinpoint what neuro-mechanisms of the Parkinson's brain benefit from dance."

Baycrest Health Sciences, a Toronto-based organization that specializes in developing innovations in aging and brain health, is also working to bolster its dance classes with the National Ballet School as well as Robichaud's Dancing with Parkinson's. Bianca Stern, executive director of Baycrest's Innovation, Technology and Design Lab, says dance – and other arts-based therapies offered at her facility to people in palliative care, with Alzheimer's, cancer etc. – are known to "improve patients' emotional well-being, self-confidence and stimulate a heightened sense of purpose and meaning."

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Baycrest also offers pottery classes, painting, music therapy, glee club, silk screening, photography and theatre workshops.

"We have Holocaust survivors telling their stories through quilting and embroidering," adds Stern. "Studies like the one under way at the NBS are important because we need to do more research on the benefits of arts therapy for patients. A lot of it now is anecdotal, but everyone could benefit from more hard data."

Bartlett says he hopes the Dancing with Parkinson's program will be extended at the ballet school. (Incidentally, if the school needs to tap more therapists, Canada's first graduate-level dance-therapy training program launches this month at Montreal's Les Grands Ballets Canadiens. The launch of the program symbolizes just how serious the field has become.)

"The exercise makes me feel better," he says. "It's fun, and by participating in this study, I feel like I'm helping people. It's reinforced for me a real sense of community."

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