

O.T. Swanson Multidisciplinary Design Laboratory (MDL)



Students Help Seniors Stay on the Move

Members of the MDL Lift-Assisted Walker Team: (standing l to r) Associate Professor, Deborah Kaminski, Craig Di Domenico, and Keith Kucinkas. (sitting l to r) Kristian Montenegro and Tyler Bellamy.

When the Albany Guardian Society (AGS), a senior advocacy group, wanted creative solutions to facilitate independent senior living, it chose to partner with Rensselaer and the O. T. Swanson Multidisciplinary Design Laboratory (MDL).

“While there are many fine organizations that are working on senior issues, we selected Rensselaer and the MDL because we knew that not only would we get effective

solutions to our problem, we would give engineering students a chance to think about using their skills in a manner that focuses on seniors,” said Rick Iannello, executive director of the AGS.

What the AGS got from the MDL student team was a design for a lift-assisted posterior walker. The walker has the potential of giving enough rehabilitative support and mobility to allow seniors to maintain their

independence and remain at home. The design has been submitted for patent approval.

The project was a departure from the usual ones tackled by students in the MDL. Indeed, most projects involve advanced technology for partners like GE, Lockheed Martin, and IBM. Though considerably less “high-tech,” it was no less of a challenge to rework—and thereby improve—a simple object.

1

1st Generation Lift-Assist Walker



Instead of a complicated pulley system, the MDL chair uses pneumatic “gas springs”—creating a smooth, powerful lifting force.

2

2nd Generation Lift-Assist Walker

2nd Generation Improvements:

- » Fewer moving parts, more portable
- » Streamlined design with fewer obstacles—making it easier for users to stand up during lift-assist
- » More user control—adjustable height and the ability to control lift-assist force



Keith Kucinkas demonstrates the 1st Generation Lift-Assist Walker.

The project also gave Rensselaer students a glimpse into the challenges that face the aging. “Not only has this project helped to provide an engaging culminating experience for our students, but it has also helped to develop a greater sensitivity on the part of our students, faculty, staff, and visitors to the concerns of seniors,” remarked Mark W. Steiner, clinical associate professor and MDL director.

Other projects with the AGS have included a mobile self-cleaning commode and new senior-friendly living space layouts.

“I would strongly encourage other nonprofit organizations to consider a relationship with the MDL. The effort put forth is real, and the work we’ve seen goes way beyond what we expected,” said Iannello.



Rick Iannello, executive director of the Albany Guardian Society (AGS)

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