

Moves you can use



Functional exercise can help make everyday tasks easier.

by Brandie Jefferson



Squats may help improve the strength and balance needed to get into or out of a chair. Photo: iStock

If you want to run a six-minute mile, how do you get there? To many people the answer is clear: Hop on the treadmill or hit the streets and run. Practice until you reach your goal.

But what if your goal is to be able to stand confidently from a seated position? Is there an exercise routine for that?

The answer lies in what's known as functional exercise. Though precise definitions vary, in essence, functional exercise has a purpose beyond improving performance of a particular exercise or improving general fitness. It is used to help people perform everyday tasks that they are having trouble with because of their multiple sclerosis. These tasks are referred to as functional tasks.

"The first part of any evaluation is to ask, 'What is the task you want help with?'" says Herb Karpatkin, a physical therapist and associate professor of physical therapy at Hunter College in New York City. "It could be walking. It could be reaching. It could be rolling over in bed."



Lunges may help improve the functional task of getting on and off the floor. Photo: iStock

Karpatkin has specialized in physical therapy for people with MS since 1995.

Once he knows a person's goal, he reverse-engineers a regimen. "We figure out what components of strength or coordination go into the task. Then I work on specific exercises or stretches to improve those components. And we try the task again."

And, in some cases, again... and again ... and again.

"The path has never been straightforward," says New York resident Merrill Hesch, 64. Hesch was diagnosed with MS in 2011 and began working with Karpatkin shortly after her diagnosis. When they first met, she couldn't stay seated — she kept sliding out of her chairs. She could walk down a flight of stairs, but when she tried to walk up, she would "crumble into a mess." When she stood, she placed all her weight on one leg. She calls it her "flamingo pose." She had trouble walking any distance at all.

One day, Karpatkin noticed that after she did the “grapevine” — walking sideways, crossing one foot over the other quickly, an exercise given to her by a previous physical therapist — she could walk a short distance without problems. “When Herb saw that, he said, ‘Do it again!’ Then, ‘Again!’”

He determined she had been dealing with abdominal dystonia, involuntary muscle movements that can outwardly reveal themselves in subtle, and sometimes not so subtle, ways.

“That was when we realized that the only way to help would be to go through a range of therapy that was very task-specific in order to make significant improvements in all aspects of my life,” Hesch says.

Common exercises can help

There are some well-known exercises that are commonly recognized as serving a specific function.

For example, according to Mandy Rohrig, a physical therapist and senior programs consultant with Can Do Multiple Sclerosis in Avon, Colorado, “Squats may help someone improve the strength and balance needed to get into or out of a chair more easily.”

Lunges are another example of a functional exercise. “They would help someone improve the functional task of getting on and off the floor,” she says.

Squats and lunges may be a common move in any given exercise routine, but they can just as easily be a functional exercise when they serve as a means to a specific end, Rohrig says.

The rewards of functional exercise can be seen in the short term, but they also compound over time. Getting out of a chair, for example, is just one of the little things many people do every day that can help facilitate a healthy level of physical activity.

Kathleen Zackowski, PhD, is the senior director of Patient Management, Care and Rehabilitation Research for the National Multiple Sclerosis Society. She works on the research portfolio that focuses on wellness and rehabilitation.

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“Lifestyle physical activity includes activities that are planned and unplanned leisure, occupational and household tasks,” Zackowski says.



Lifestyle physical activity is one area of wellness that is being studied. This type of activity includes cleaning the house or preparing a meal, things we all do to keep active throughout the day. Photo: iStock

Physical activity benefits quality of life

Research shows that maintaining a healthy baseline of activity has benefits for people's quality of life. "It's really critical to protect our ability to stay active," Zackowski says. From walking, to standing with or without assistance, to feeding oneself, "It doesn't matter what level of ability one has, everyone should work to participate in some level of activity."

Functional exercise can help enhance participation in lifestyle physical activities, Zackowski says. For example, preparing a meal might require a lot of walking back and forth around a kitchen. One form of exercise that might help in that case could be walking in a swimming pool. "Some people enjoy this form of exercise most because they can stand and walk with less assistance, using the resistance of the water to support them as they walk," she says.

Walking in a pool could also allow a person to push themselves harder than they might otherwise because the cool water can mitigate the discomfort that many people experience when they become overheated.

Zackowski notes that heat sensitivity, along with fatigue, can be potential barriers to any kind of exercise, including functional exercise, for people with MS. The freedom that comes with a routine that can be done at home on your own time can be particularly helpful in that respect, she says. "Symptoms of MS often fluctuate. Participating in a functional exercise program at home gives a person the flexibility to do one activity one day, and another the next."

Knowing which exercises to do isn't always as easy as squats for sitting, or practicing rolling

over to get better at rolling over in the bed. Exercises should focus on strengthening the muscle groups required to perform certain activities.

“If an individual uses a transfer or sliding board to transfer from a wheelchair to another chair, they would require good shoulder blade and tricep muscle strength to push off,” Rohrig says. “The functional exercise that may be helpful would be triceps strengthening, such as tricep dips.”

To address foot drop, a person might benefit from shin-strengthening exercises. Improving balance might mean standing with one’s feet progressively closer together. It might not always be obvious which functional exercises address certain conditions. For that reason, Rohrig says seeking professional help is a good move.



Merrill Hesch now uses Nordic walking sticks to help combat her fatigue.

Photo courtesy of Merrill Hesch

Take symptoms into account

“I think it’s important for people with MS to consider a consultation with a physical therapist to help prioritize the exercises that can optimize individual function while taking into consideration MS symptoms,” she says.

That advice rings true for Hesch.

From day one, she wanted to be able to walk unassisted. But the exercise that she thought would help — walking slowly on a treadmill — was a no-go for her. “Every now and then I would try it at the gym,” she says, but it didn’t help. “The path was never that straightforward.” In the end, what helped with her gait? “Biking,” she says without hesitation. “The more I bike, the better I walk.”

Over a 15-month period, Karpatkin was able to help Hesch walk without the crutches she had been using. She now uses Nordic walking sticks to help combat her fatigue.

For someone who uses a wheelchair, Karpatkin says, the issue is the same: “What is the function they want to carry out? What do they want to do that they cannot do?” he asks. “It’s an issue of determining that task, asking what limitations MS has imposed and how we can address those limitations.”

To help transfer from a wheelchair to a seat, exercises that strengthen certain shoulder muscles are helpful. For example, try holding onto your wheelchair’s armrests or push rims and lifting your bottom off of the seat.

But for people Karpatkin sees who primarily use devices to help get around, he asks one important question first: Have you tried physical therapy before turning to an assistive device?

“I see it all the time,” he says. “Someone with MS goes to a doctor and, instead of prescribing physical therapy, the doctor says, ‘Here’s a cane,’ or ‘Here’s a brace.’ And that can make things worse,” Karpatkin says. “Rather than trying exercise to improve or compensate for limitations, the cane or the brace can make them walk less.” And the less someone walks, the weaker the muscles needed to perform that specific task become.

“It’s something I’m very passionate about,” Karpatkin says. “There are a large number of underserved patients who have no problem getting the medication they need, but the physical therapy is rarely prescribed.

Whether it’s running a six-minute mile or standing unassisted for a few moments, exercise can be hard, but ultimately, it’s worth the effort.

“Keep a positive attitude,” Zackowski says. “Maintain a certain level of activity so you’re not going through weeks when you’re not active, but be kind to yourself,” she adds. “Life is complicated, and this is an important part of life.”

Functional exercises that help daily living

Carrying a child

Lifting weights from the floor to the chest may translate into improved ability to lift a child.

Bringing bags of groceries from your car to the kitchen in one trip

Carrying kettlebells in one or both hands while walking can simulate carrying bags of groceries.

Sitting without support or positioning yourself in bed

Core strengthening may help with bed mobility or sitting balance.

Operating a manual wheelchair

Try a tricep extension: Strengthen your shoulder extensors by holding a light dumbbell in one hand. Bend forward in your chair until your chest hits your knees, holding the dumbbell toward the floor. Keeping the arm straight, pull it back, behind you. Return to the starting position.

Improving posture when seated in your wheelchair

Try a dumbbell row: Strengthen your scapular retractors by holding a light dumbbell in one hand. Bend forward in your chair until your chest hits your knee, holding the dumbbell toward the floor. Pull your shoulder blades together and bend your elbow to bring the weight up toward your chest.

Brandie Jefferson is a writer in St. Louis, Missouri. She was diagnosed with MS in 2005.

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