

Study looks at manual wheelchair use, exercise and calorie burning

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A person who uses a manual wheelchair can burn up to 120 calories in half an hour while wheeling at 2 mph on a flat surface, which is three times as much as someone doing the same action in a motorized wheelchair.

The same person can expend 127 calories while mopping and as much as 258 calories while fencing in a 30-minute timeframe if the activities are done in a manual wheelchair.

This is according to a review article written by Professor David R. Bassett Jr. of the Department of Kinesiology, Recreation and Sport Studies at the University of Tennessee, Knoxville. It calculates the calorie costs of various physical activities for people who use manual wheelchairs and summarizes them into a single source -- a first of its kind.

The article, which Bassett co-authored with former UT graduate student Scott A. Conger, was published this month in *Adapted Physical Activity Quarterly*, a journal issued by Human Kinetics Inc.

The review should be helpful to those who want to create physical activity questionnaires and develop recommendations for people with disabilities.

It also would show people with disabilities that they can obtain health-enhancing benefits when they exercise moderately or vigorously, Bassett said.

"It might be simply wheeling their chair along while taking their dog for a walk or playing wheelchair basketball," he said. "You can still burn a significant number of calories."

Bassett co-authored another document entitled the "2011 Compendium of Physical Activities" for able-bodied people. The study, which was funded by National Institutes of Health, contains a list of activities that is continually updated and is widely used. But he saw a need to develop a comparable

resource for those who use wheelchairs.

Bassett and Conger reviewed more than 250 studies containing [energy expenditure](#) data for wheelchair-related physical activities. They identified 63 activities, ranging from being sedentary to household chores and transportation to exercise.

The U.S. Department of Health and Human Sciences recommends that adults with disabilities should get at least 150 minutes per week of moderate exercise or 75 minutes of vigorous exercise per week. The suggestion is the same for able-bodied people.

A partial list of wheelchair-related activities and their caloric burn (performed by a 160-pound adult in 30 minutes):

- Sitting, watching TV: 40
- Dusting: 65
- Table Tennis: 80
- Vacuuming: 98
- Basketball (shooting baskets): 116
- Tennis: 149
- Basketball (gameplay): 221
- Nordic sit skiing: 428

Provided by University of Tennessee at Knoxville

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