# Interesting Article Excerpts Exercise Benefits for Stroke Survivors

#### Physical Activity and Exercise Recommendations for Stroke Survivors

"In some cases, the debilitating motor effects of a stroke can markedly reduce mechanical efficiency and increase the energy cost of walking up to 2 times that of able-bodied persons. [This] can create a vicious circle of further decreased activity and greater exercise intolerance, leading to secondary complications such as reduced cardiorespiratory fitness, muscle atrophy, osteoporosis, and impaired circulation to the lower extremities in stroke survivors."

"Evidence now suggests that the exercise trainability of stroke survivors may be comparable, in many ways, to that of their age-matched, healthy counterparts."

"The effects of a 1-hour-per-day, 3-day-per-week, 12-week exercise program of combined cardiovascular, strength and flexibility training was studied. [...] Compared with the controls, the exercise group demonstrated significant gains in peak oxygen update and strength and improvements in body composition."

>>The article features a table listing the goals, intensity, frequency and duration for recommended modes of exercise: aerobic, strength, flexibility and neuromuscular (balance training).

Source: Gordon, Gulanick, et al.; American Heart Association "Circulation"; 109;2031-2041; 2004 Link: http://stroke.ahajournals.org/content/35/5/1230.full

#### Weight Training After Stroke

"In [a study] investigators determined that targeted strength training in patients with muscle weakness due to strokes significantly increased muscle power without any negative effects on spasticity."

"'When working a muscle, think full stretch to full contraction to work the muscle through its whole range. That is what strengthens things' Tom [Wisenbaker, strength training professional] says. 'Walking doesn't really strengthen the leg muscles because it doesn't go through the full range; walking is good cardio, but it doesn't build strength.'"

Source: "Resist This!" Stroke Connection Magazine, Jan/Feb 2004

## What are the benefits of physical activity for stroke survivors?

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"Regular exercise helps improve the lipid profile by lowering cholesterol and raising HDL (the good cholesterol that helps clear out the bad cholesterol). It also helps reduce blood pressure and resting heart rate. Regular exercise can help improve blood sugar levels and increase insulin sensitivity (reducing the risk of diabetes or the severity of it). In terms of their psychological well being, regular physical activity helps reduce feelings of depression

and anxiety. In terms of function, regular exercise helps increase endurance and strength which can help survivors perform their ADL's with less fatigue and with greater ease."

"Resistance training can increase muscle mass and strength which can translate into increased mobility, greater independence, and improved function with daily activities."

Source: Transcript of Dr. Elizabeth Pegg Frates, Dept. Physical Medicine and Rehabilitation,

Harvard School of Medicine, Aug 2010; www.strokeassociation.org

### Why is it important for stroke survivors to participate in exercise?

"General daily physical activity does not contribute to preventing cardiovascular decline, and it does not influence VO<sub>2</sub>max. To influence a change requires more than just regular physical activity."

Source: "Research to Action" conference, Canadian Center of Activity and Aging; July 2009





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