

# Skipping Elevator at Work Can Lower CV Risk

BY BRUCE JANCIN  
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MUNICH — “No thanks, I’ll take the stairs instead.”

This was the cry that rang through the corridors of University Hospital, Geneva, last year as physicians and nurses participating in the Geneva stair study eschewed elevators in favor of foot power.

The study was set up to test a population-based strategy for increasing physical activity that’s designed to be easy to incorporate into everyday life—namely, taking the stairs instead of elevators in the workplace, where most adults spend half their waking hours, Dr. Philippe Meyer explained at the annual congress of the Euro-

pean Society of Cardiology.

The payoff from the 3-month intervention was significant reductions in waist circumference, body weight, fat mass, diastolic blood pressure, and LDL cholesterol. These changes were accompanied by increased aerobic capacity as measured by maximum oxygen uptake, or  $VO_2$  max, reported Dr. Meyer of the University of Geneva.

The need to develop novel approaches aimed at increasing physical activity in the broad population arises from surveys indicating that fewer than half of Europeans and Americans meet current public health guidelines recommending a minimum of 30 minutes of moderate-intensity aerobic activity 5 days per week. Meanwhile, rates of obesity, dyslipidemia, and diabetes continue to climb.

The Geneva stair study included 77 physicians and nurses with a sedentary lifestyle, defined as less than 2 hours of exercise per week and less than 10 flights of stairs covered per day. The participants were asked to use stairs exclusively instead of elevators at work for 12 weeks. The hospital building is 12 stories; most study participants worked on the first 7 floors. Participants wore badges with a staircase diary printed on the back.

The 42 women and 35 men in the study averaged 43 years of age, with a mean body mass index of  $25.7 \text{ kg/m}^2$  and a mean waist circumference of 88.1 cm. None had overt diabetes; 40% were hypertensive, and 30% had hypercholesterolemia.

The participants’ combined daily ascent and descent of stairs jumped from a mean

of 5.1 floors at baseline to 22.7 floors daily. Over the course of 12 weeks, the 69 subjects who completed the study experienced a significant reduction in waist circumference, from a mean of 87.9 cm to 86.4 cm. Their mean weight dropped from 74.4 kg to 73.9 kg; this included a 350-g mean reduction in body fat.

Particularly impressive was the participants’ gain in aerobic capacity: Mean  $VO_2$  max rose from 37.3 mL/kg per minute to 40.5 mL/kg per minute, an 8.6% increase. This corresponds to a gain of nearly 1 metabolic equivalent. When maintained long-term, an increase of this magnitude has been shown to confer a 14%-15% reduction in all-cause mortality, Dr. Meyer noted.

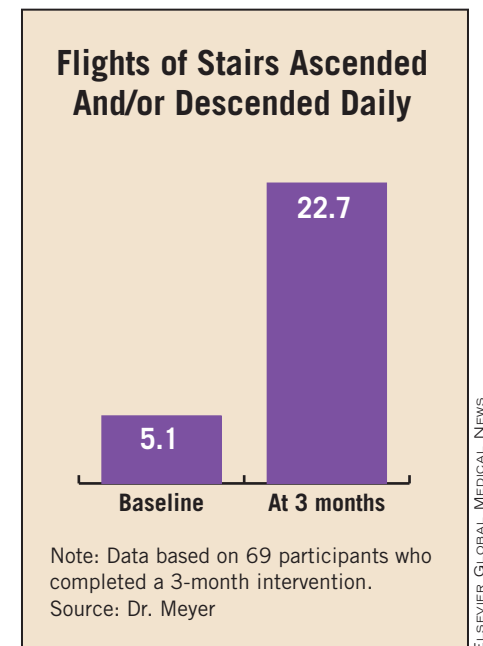
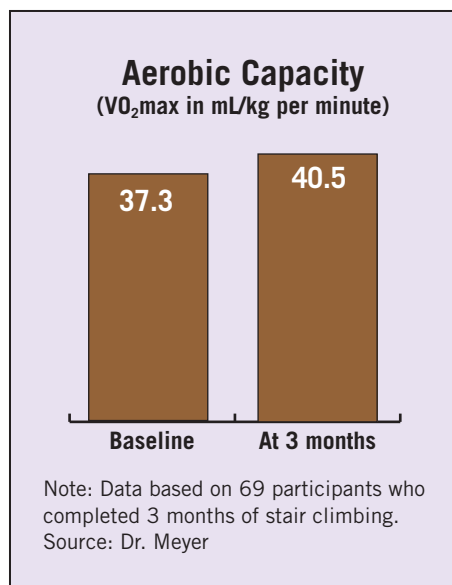
In addition, participants experienced a mean 1.8-mm Hg decrease in diastolic blood pressure, a 3.9% reduction in LDL level, and favorable but nonsignificant trends with regard to systolic blood pressure, triglycerides, and HDL cholesterol.

“At the population level, all this could lead to significant cardiovascular preventive effects,” he observed.

At 6 months’ follow-up—3 months after the intervention’s end—the mean number of floors of stairs covered daily had declined to 10. The only benefits at 3 months that remained statistically significant at 6 months were the gain in aerobic capacity— $VO_2$  max was still 5.6% improved over baseline—and the reduction in fat mass. However, the somewhat disappointing 6-month data are misleading because right after the end of the 12-week intervention the building’s main staircase was closed for renova-

tion. “We didn’t know that was coming. Many people no longer used the stairs. It affected the 6-month results,” Dr. Meyer said.

He noted that a major study limitation was the lack of a control group. Asked how he’d go about designing a large confirmatory, randomized, controlled trial, Dr. Meyer said he’d recruit multiple businesses located in separate buildings. “You cannot choose a control group in the same environment because the control group will be contaminated by the promotional campaign that you do,” he said, explaining that as part of the campaign, posters urging people to take the stairs had been placed in the building at points of choice. ■



## Concomitant Antiplatelet/NSAID Use Requires Caution

BY SHARON WORCESTER  
Southeast Bureau

Identifying and treating the potentially life-threatening problem of gastrointestinal complications in patients who use the combination of antiplatelet therapy and NSAIDs are the focus of a new scientific statement by the American College of Cardiology Foundation, the American College of Gastroenterology, and the American Heart Association.

Practical clinical guidance for reducing the risk of ulceration and related bleeding—including the use of gastroprotection, either with proton pump inhibitor therapy or treatment of *Helicobacter pylori* infection—was included in the consensus document.

Ulcerations and gastrointestinal bleeding are recognizable risks in individuals who use antiplatelet agents and NSAIDs, with these patients having up to a fourfold increased risk of such complications, compared with those who are not using the medications, according to Dr. Deepak L. Bhatt, document cochair, and his colleagues on the consensus document writing committee (*J. Am. Coll. Cardiol.* 2008 Oct. 6 [doi:10.1016/j.jacc.2008.08.002]).

Since NSAIDs, including aspirin, are the most widely used class of medication in the United States, and more Americans are living with heart disease in addition to conditions that require them to take NSAIDs (such as arthritis, inflammation, and related musculoskeletal pain), the management of GI risk will become an increasingly important part of cardiovascular care, according to an American College of Cardiology (ACC) statement on the consensus document.

“Doctors are uncertain about how best to prevent bleeding complications in patients receiving antiplatelet

therapy and NSAIDs, which are both commonly used, and can cause erosions in the stomach lining,” Dr. Bhatt, chief of cardiology at VA Boston Healthcare System, noted in the statement. “These recommendations represent the collective expertise of leading cardiologists and gastroenterologists, as well as an extensive review of the literature, and provide specialists with practical measures to manage competing risks and help improve patient safety.”

In addition, Dr. David Johnson, immediate past president of the American College of Gastroenterology and professor of medicine and chief of gastroenterology at Eastern Virginia Medical School, Norfolk, stressed the importance of “proactive assessment” of individual risk, and of the need for improved communication among cardiologists, gastroenterologists, and primary care physicians to improve patient safety. Likewise, patients must be informed of the importance of disclosing all medication information to ensure that appropriate measures can be taken to reduce risk, he noted.

The organizations made recommendations for these clinical scenarios:

► **GI complications of aspirin and of combined aspirin and nonaspirin NSAIDs.** Gastroprotective therapy should be prescribed for at-risk patients who use low-dose aspirin, and for those using any NSAIDs in conjunction with cardiac-dose aspirin. Because the risk of upper-gastrointestinal events increases with aspirin dose escalation, doses greater than 81 mg should not be routinely prescribed for chronic phase therapy.

► **GI effects of combined aspirin and anticoagulate therapy.** There is a “clinically meaningful and significantly increased risk of major extracranial bleeding events, a large proportion from the upper GI tract” in those on this combination, which has an “established vascular, ar-

rhythmic, or valvular indication.” Concomitant proton pump inhibitor (PPI) therapy is advised.

► **GI effects of clopidogrel and clopidogrel plus anti-coagulant therapy.** Clopidogrel should not be substituted for aspirin as a strategy to reduce recurrent ulcer bleeding in high-risk patients because it is inferior to the combination of aspirin plus PPIs. Also, the combination of clopidogrel and warfarin therapy is associated with an increased incidence of major bleeding, compared with monotherapy; this combination should be considered only when the benefits are likely to outweigh the risks. An international normalized ratio of 2.0-2.5 is recommended when warfarin is added to aspirin or to aspirin and clopidogrel.

► **Treatment and prevention of aspirin and NSAID-related gastroduodenal injury.** PPIs should be used for both the prevention and the treatment of NSAID- and aspirin-associated GI injury.

► **H. pylori testing and eradication.** Before initiating chronic antiplatelet therapy in patients with a history of ulcer disease, test for and eradicate *H. pylori*.

► **Discontinuation of antiplatelet therapy because of bleeding.** The decision to discontinue aspirin therapy in the setting of acute ulcer bleeding should be individualized based on cardiac risk and GI risk assessments to discern potential thrombotic and hemorrhagic complications.

► **Endoscopy in patients on mono or dual antiplatelet therapy.** High-risk cardiovascular patients on dual therapy may benefit from endoscopic therapy. Collaboration between the cardiologist and endoscopist is important to assess the risk of bleeding against the risk of thrombosis in regard to the timing of antiplatelet therapy cessation.

The consensus document is considered to be part of “an ongoing dialogue” and will be updated “as more definitive data are accrued,” according to the ACC statement. ■