https://onlinelibrary.wiley.com/doi/abs/10.1111/sms.14628

Eighteen overweight and obese men (21.0 ± 1.2 years; 28.8 ± 2.2 kg/m2) participated in this randomized four-arm crossover study, including uninterrupted sitting for 8.5 h (SIT) and interruptions in sitting with matched energy expenditure and duration but varying muscle activity: 30-min walking at 4 km/h (ONE), sitting with 3-min walking at 4 km/h (WALK) or squatting (SQUAT) every 45 min for 10 times.
Collectively, short, frequent walking or squatting breaks effectively enhance glycemic control in overweight and obese men compared to a single bout of walking within prolonged sitting. These superior benefits seem to be associated with increased muscle activity intensity in the targeted muscle groups during frequent transitions from sitting to activity.

https://pubmed.ncbi.nlm.nih.gov/25168375/

Transitioning from a seated to a standing work posture every 30 min across the workday, relative to seated work, led to a significant reduction in fatigue levels and lower back discomfort in overweight/obese office workers, while maintaining work productivity.

https://bmcmusculoskeletdisord.biomedcentral.com/articles/10.1186/s12891-021-04136-5

Prolonged (excessive) sitting is detrimentally associated with cardiovascular, metabolic and mental health. Moreover, prolonged sitting has been associated with poor executive function, memory, attention and visuospatial skills, which are important cognitive aspects of work performance. Breaking up prolonged sitting with standing or light-intensity exercises at the workplace is recognized as a potential measure in improving cognition. However, preliminary evidence, primarily from acute laboratory experiments, has enabled formulating hypothesis on the possible mechanistic pathways.

https://www.sciencedaily.com/releases/2020/02/200206132339.htm

A new study shows classrooms remain overlooked when it comes to the health risks of sitting still for too long. Researchers found most students don't realize the health risks can't be counteracted by later exercise, and perhaps unsurprisingly, students feel it is socially unacceptable to take a walk while the professor is still leading class. The researchers have solutions like building open classrooms and offering instructor-led stretch breaks.

https://www.medicalnewstoday.com/articles/5-minute-walks-every-30-minutes-offsets-effects-too-much-sitting?c=1657973593040

Physical inactivity is often synonymous with modern life, with up to 85% of the world’s population leading a sedentary lifestyle.
Sitting for too long, regardless of general physical activity, is a recognized health hazard associated with an increased risk of cardiovascular disease, diabetes, obesity, and high blood pressure.
New research has found that a 5-minute walking break after every 30 minutes of sitting may help regulate blood pressure and control blood sugar levels.
The work highlights that short exercise “snacks” during the working day may also improve mood, fatigue, and well-being.

https://www.hsph.harvard.edu/prc/priority-areas/physical-activity/movement-breaks-fact-sheet/

Experts agree that students should have opportunities for classroom physical activity. Teachers can help students meet the physical activity recommendations by incorporating movement breaks in the classroom.

https://readytogether.sde.ok.gov/sites/default/files/2022-01/How%20can%20schools%20integrate%20physical%20activity%20breaks%20in%20the%20classroom.pdf

In many classrooms, students experience off-task behaviors and difficulty focusing on learning. Physical activity breaks help students focus, making integration of movement into the school day, and even the classroom, beneficial to student learning. Professional development and support can help teachers feel more comfortable incorporating physical activity into their classrooms. Unfortunately, across all school levels, few teachers receive this targeted professional development that can benefit students and the academic environment.

https://odphp.health.gov/our-work/nutrition-physical-activity/move-your-way-community-resources/toolkit-schools

Move Your Way® Toolkit for Schools
This toolkit is for anyone working to encourage physical activity in a school setting — like physical education and health education teachers, classroom teachers, coaches, after-school program leaders, and school administrators. Others promoting student health and well-being — like school nurses and parent teacher associations (PTAs) — can also use the information in this toolkit to support their work.