

Heads up, phones down when walking

14 March 2014, by Angela Koenig



Using a mobile device while walking is potentially dangerous.

(Medical Xpress)—Cellphone usage while driving is a widely known danger which has led to bans across the globe. Using a cellphone while walking, however, initially seemed to be an innocuous behavior ... until cellphones became mobile devices used for sending texts, checking emails and downloading video.

New studies, and common sense, are pointing to the potential dangers...

"Whenever you do these dual tasks the brain has difficulty giving you a safe outcome," Amit Bhattacharya, PhD, a professor the University of Cincinnati College of Medicine's Department of Environmental Health, says of a recent Australian study that demonstrated how [walking](#) and using a cellphone to read and write texts alters a person's normal gait, posture and [head movement](#).

The study, published in the journal *PLoS One*, analyzed the gait of 26 healthy people while they 1) walked without a phone, 2) read a text on a phone and 3) composed a simple text on a phone. The findings were that all subjects deviated from walking in a straight line while reading a text and deviated even more from walking a straight line when composing a text. The study stated that head

movement when texting or reading could also have a negative impact on a person's balance.

Bhattacharya, who employs similar dual task gait testing at UC to research Parkinson's disease, says that the action of walking and reading and/or texting has biological relevance, as it increases the potential for falling.

"If someone is distracted you are going to see the deviation from a [straight line](#) to begin with, but these particular two actions are motor and cognitive tasks ... and when the brain has a decision to make about which function it is going to let go; unfortunately the body says I'm going to let you fall."

That decision, he says, can be prompted from moving the head excessively, which might overstimulate the vestibular organ and in turn cause dizziness.

Indeed, the use of sensors in the study detected that "when walking and reading or texting all of the variables associated with falling were worse. From a distance it may not be obvious, and when you are doing it might not be noticeable, but even subtle changes in gait pattern and movement of head may be associated with the risk of falling," says PhD candidate Ashutosh Mani, who conducts gait testing with Parkinson's disease patients under the guidance of Bhattacharya.

The potential for accidents becomes even more apparent, both say, when one looks at this study and other studies showing that the number of [emergency room visits](#) related to walking and [mobile phone usage](#) has doubled over the past decade.

Their common sense advice is to avoid using a [cellphone](#), especially reading and typing on the phone, while driving as well as walking.

More information: Schabrun SM, van den Hoorn W, Moorcroft A, Greenland C, Hodges PW (2014)

Texting and Walking: Strategies for Postural Control and Implications for Safety. *PLoS ONE* 9(1): e84312. [DOI: 10.1371/journal.pone.0084312](https://doi.org/10.1371/journal.pone.0084312)

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