Distracted Walking and Mobile Device Use

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With increased rates of mobile device use, including time spent messaging and gaming, it’s becoming common for people to use their phones while walking from place-to-place; however, the simultaneous use of mobile technology while performing daily activities may increase the risk of human error and accidents owing to voluntary distraction. According to a recent study that used emergency department data from the National Electronic Injury Surveillance System (NEISS) database, distracted walking incidents involving mobile phones accounted for more than 11,100 injuries between 2000 and 2011.

The study also reported:

- At least 26% of the walking injuries happen outside the home
- 68% of those injured are women
- 54% are under 40
- Nearly 80% of these injuries were due to a fall

How Mobile Devices Impact Human Behavior

Research has shown that pedestrian inattention and distraction impacts human performance, movement strategies, and safety during everyday activities. When pedestrians use mobile devices while walking, attention to the environment is reduced, thereby increasing the risk of interaction with unnoticed obstacles and possibly leading to slip, trip, and fall incidents. This principle was demonstrated in a recent study conducted at Exponent’s Test and Engineering Center, which investigated pedestrian gaze (using eye tracking technology) and gait behavior (using motion tracking) while texting during step navigation. Results showed that both visual attention and foot clearance relative to step surfaces were reduced during step ascent and descent, which could lead to increased potential for gait disruption and falls.

How Exponent Can Help

Mobile device use is common on public premises (e.g., the workplace, hotels, restaurants, amusement parks, and residential areas). Distraction and inattention influence pedestrians’ ability to navigate the environment safely and notice otherwise conspicuous information in public areas.

Exponent’s multidisciplinary approach to premises liability in biomechanics and human factors can enable a comprehensive evaluation of incidents and provide seamless and effective presentation of data and findings. Specifically, our expertise and experience have been used to address issues of property design, visibility and conspicuity, fall risk, fall mechanism, injury mechanics and causation,
and hazard mitigation. Using our wide breadth of capabilities, Exponent’s engineers and scientists assess the effects of both intrinsic factors and external, environmental factors on perception, neuromechanics, and hazard response.

For more information on the services we can provide, please visit us at www.exponent.com and view our Premises Liability web page.

Further Reading

