



## Escalator Safety and the Riding Public

Escalator incidents involving older adults are on the rise, so says a team led by Dr. Joseph O’Neil and Dr. Greg Steele at the Indiana University School of Medicine releasing a report that appeared in the March 2008 issue of the Journal of Accident Analysis and Prevention.

In the study, Dr.’s O’Neil and Steele used data from the National Electronic Injury Surveillance System (NEISS) of the U.S. Consumer Product Safety Commission (CPSC) and compiled accident data for the years 1991 through 2005 in adults aged 65 and older.

The data indicated an estimated 39,850 escalator-related injuries with no fatalities. The overall injury rate was 7.8/100,000 population. During the study period 1991-2005, the rate of escalator-related injuries doubled. The mean age of the study population was 80.1 years with 73.3 percent female. The most frequent cause of injury was a slip, trip, or fall and the most frequently injured body parts were the lower extremities and the head.

“Older adults should not try to walk up a moving escalator, carry large objects, or wear loose garments while riding an escalator since these behaviors appears to be associated with an increased risk of falling.”

### Extremely Unsafe Behavior

The scholarly research mentioned above deals primarily with the increase in accidents in older adults. What is equally concerning is the apparent increase in the instances of ex-

tremely unsafe behavior while on escalators by younger adults. There are an increasing number of cases of injury to people while “horsing around” on escalators. If you want some video evidence, simply Google “YouTube Escalator” and marvel at the number of recorded instances of people running up and down operating escalators, even going so far as to stage races on adjacent escalators.

*“There are many things that we can do to have a safer escalator ride.”*

The most disturbing case is where an individual apparently had intended on riding down the escalator with his hands on the handrail lying prone with his feet behind him on the handrails. Unfortunately, they were incapable of supporting his their weight because he fell down the entire length of the moving escalator impacting the steps, face first, at the bottom of the still running unit.

In April of this year, a Brooklyn father of two fell over 30 feet to his death from an escalator at New York’s Shea Stadium. Witnesses indicated that they had seen the individual sliding down the handrail when he fell over the side of the escalator. The escalator had been taken out of service and was not operating at the time of the incident as is the practice at many such venues.

Just over three months later, another fan fell when he was sliding down the handrail of the escalator and lost his balance falling over 40 feet. The individual had two broken ribs, a collapsed lung, and swelling of the brain. At last report, the man was still listed in critical condition. He was 36 years old, a graduate of the University of Missouri, and currently attending medical school.



W. Timothy Eason, C.E.I.  
Vice President

As someone who has raised two children and currently has aging parents well into the category of Dr. Joseph O’Neil and Dr. Greg Steele’s escalator incident study involving older adults, I can easily agree with their comments.

I am sure that all of us with parents or friends that are in the later years in life take similar precautions when walking with our senior friends and family as we have with our young children.

After spending virtually every day for the past six years riding escalators at least a dozen times a day within one of the United State’s largest subway systems, I have seen more than my share of people ignoring their own safety and that of others in a variety of ways.

We sincerely hope that you find this information helpful in your day-to-day activities. Feel free to email me directly at [teason@vtexcellence.com](mailto:teason@vtexcellence.com).



## Preventable Incidents

Not all escalator incidents are the result from blatant misuse of the equipment. Not all escalator injuries are accidents either. The term accident implies that these incidents are unpreventable, and in my opinion, along with those of many others in the industry, many are preventable.

There are many things that we can do to have a safer escalator ride. The Consumer Product Safety Commission (CPSC) issues the following recommendations to help make your ride safer:

- Make sure shoes are tied before getting on an escalator.
- Stand in the center of the step and be sure to step off of the escalator at the end of your ride.
- Always hold children's hands on escalators, and do not permit children to sit or play on the steps.
- Do not bring children onto escalators in strollers, walkers, or carts.
- Always face forward and hold the handrail.
- Avoid the sides of steps where entrapment can occur.
- Learn where the emergency shutoff buttons are in case you need to stop the escalator.

## Types of Shoes and Clothing

What the CPSC stops short of listing is that we should be mindful of the type of shoes and clothing that we are wearing and their proximity to the escalator steps and sides. Shoes with small heels, those with loose fitting soles, or shoes made of soft plastic are increasingly susceptible to escalator entrapment.

Two young children were injured while riding the escalators at the Atlanta Hartsfield Airport. Another young child suffered a foot injury when riding escalators at the Atlanta airport while wearing flip-flops. The Atlanta airport is not alone in these incidents, there have been similar incidents reported around the world resulting in numerous lawsuits against the company.

The American Society of Mechanical Engineers (ASME), the governing body for elevator and escalator safety, continues to update the A17.1 codes and all escalators are required to have safety related signs indicating proper use. Safety related signs and warnings, attached to the escalator balustrade must not only be read ....but heeded to be effective.

## Promoting Awareness

Recognizing that escalator incidents are more prevalent with small children and older adults, the Elevator Escalator Safety Foundation (EESF) has developed two programs that target those groups and helps promote rider awareness and riding safety on escalators. The Safe-T Rider© program was developed for young children in 2nd grade and is presented in a format compatible to the younger age group while also reaching the children's parents and teachers. The EESF also has A Safe Ride® for Adults; a 12-minute video geared towards older riders but is equally suitable for adults of all ages.

In addition to the government, safety, and code authorities indicated above, ALL of us have a responsibility with regards to using escalators safely. First, it is the responsibility of the owner of the equipment to maintain that equipment in a mechanically safe and code compliant condition employing competent technicians to maintain the equipment. Design engineers and those who operate the equipment have the responsibility to be constantly searching for new and better ways to make the equipment safe for the riding public.

But it is just as important for all of us who are using the equipment to be ever mindful of ourselves, and of those whom we may be charged with safeguarding; whether they are children or older friends or family members that we may travel with to make sure that they are riding on the equipment in the safest possible manner.

Let's all go out there to do whatever we have to do, wherever our travels may take us, but whatever you do, wherever you may go, BE SAFE OUT THERE. 



This column is intended to discuss new or existing rules and interpretations that may affect the operations or planning of your vertical transportation systems. The rules within the A17.1 Code are intended to be clear and unambiguous, but sometimes there are unintended consequences to the rules that leave the reader confused as to the intention of the Code.

## What is the Performance Based Code (PBC)?

Headline in New York City: MTA's Energy-Efficient Subway Escalators Unveiled. The concept is that New York City Transit determined that a "sleep-mode" for their escalators would save energy and wear and tear on heavily used escalator equipment.

This technology is not new. It is in use all over the world, from Canada, to Europe to Asia. Hundreds, if not thousands of escalators use this technology to effectively save electricity in installations across the world. How does our national code, ASME A17.1, address this issue?

This is a violation of all known United States codes and standards. Does this mean that it is a bad or unsafe idea? Absolutely not! Technology is advancing faster than most building codes can keep up.

The elevator/escalator industry has a national safety code since 1921. This Code has done an excellent job of establishing and improving safety requirements for decades. The process to develop new requirements however, can take years.

Once adopted and approved by the ASME A17.1 Standards Committee, each jurisdiction in the United States has the authority to determine if that edition will become part of their local building code or not. Some jurisdictions adopt each edition quickly, while others can be five to ten years behind the latest edition of the ASME A17.1 Code.

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