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February 22, 2011

Dave Hubbard  
Chief Executive Officer  
National Mobility Equipment Dealers Association  
3327 West Bearss Avenue  
Tampa, Florida 33618

Dear Mr. Hubbard:

We are writing to you to request that your members join our fight to protect the disabled from burn injuries caused by exposure to vehicle seat heaters. Each year, occupants who suffer from lower body sensory deficits experience burns from malfunctioning or poorly designed seat heaters.

While most occupants are able to discern when the seat heater has exceeded human tolerance, occupants who suffer lower body sensory deficits caused by paralysis, diabetes and neuropathy can be seriously burned when a heater malfunctions. These injuries have been described in the medical literature.

Doctors from the Haydarpasa Training Hospital's Department of Plastic and Reconstructive Surgery and Burn Unit and the Gullhane Military Medical Academy and Medical Faculty in Istanbul, Turkey reported on second and third degree burns suffered by a 38-year-old paraplegic due to prolonged contact with a malfunctioning seat heater.<sup>1</sup> The doctors described the injury in a letter to the editor of *Eplasty*, the *Open Access Journal of Plastic Surgery*. They noted the potential risks to the disabled:

“...Electric heated car seats are now commonplace and have been known to malfunction and become dangerously hot, which may cause third-degree burns. The surface temperature at the heated car seat may reach 120°F. This temperature may cause localized deep and even life-threatening burns within 10 minutes. Therefore, this injury is a major potential risk for patients with sensory deficits

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<sup>1</sup> An Unusual Burn Caused by Heated Car Seat; Celalettin Sever, MD, Yalcin Kulahci, MD, Fatih Uygur, MD, and Sinan Oksuz, MD; Letter to the Editor; *Eplasty Open Access Journal of Plastic Surgery*; April 8, 2010

such as paraplegia, diabetes, vascular disease, stroke, and mental or physical disabilities.”

A 2003 article in the *Journal of Burn Care Rehabilitation* described the case of a 48-year-old male paraplegic with decreased sensation in his buttocks who suffered third-degree burns, caused by the seat heater in his new minivan.<sup>2</sup> The patient reported that the heater was on for 20 minutes before he noticed the pain. Researchers found that the vehicle was equipped with four heating panels. Their tests showed that they reached a temperature of 95°F, but the heating panel near his burns reached a localized temperature of 120°F. At this temperature third-degree burns can occur within 10 minutes.

A 2005 paper written by German physicians described the severe burn injuries suffered by a 42-year-old paraplegic, who remained in contact with a seat heater for four hours.<sup>3</sup> His burns covered 6 percent of his body and they were so extensive on his posterior and thighs they required hospital care and surgical skin grafts. The authors noted that seat heaters were now another potential burn injury source for a vulnerable population:

“Paraplegic patients belong to the risk population for burns. On the basis of reduced or increased sensitivity, pain sensation and limited mobility due to their illness, there is a fundamentally increased risk of suffering thermal burns and difficult recoveries. The desire for warm seats and backs when motoring has led, in recent years, to a clamor for heated car seats. This increased popularity of seat heating in motor vehicles of the new generation has entailed a new thermal burn source for paraplegics. On the one hand, this can be purely technically conditioned, due to possible faulty functioning of regulating electronics, creating a risk of overheating with a panic reaction and burn danger. Additionally, prolonged, consistent use of a defective seat heater when anesthesia and analgesia are present could produce serious burns in a user if local overheating goes unnoticed. Third degree burns can occur after 10 minutes with car seats warmed to 49°C.”<sup>4</sup>

In September, a trio of British physicians described in the technical publication, *Spinal Cord*, the case of a 50-year-old diabetic woman who suffered burns from prolonged contact with heated seats.<sup>5</sup>

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<sup>2</sup> Car Seat Heaters: A Potential Hazard for Burns; Pirko Maguiña; Tina L. Palmieri; David G. Greenhalgh; *Journal of Burn Care Rehabilitation*; 2003

<sup>3</sup> Car Seat Heaters – a Potential Danger for Paraplegics; E. Demir1 D. O’Dey; P. Fuchs; F. Block; N. Pallua; *Neurologist* 2005

<sup>4</sup> Car Seat Heaters – a Potential Danger for Paraplegics; E. Demir1 D. O’Dey; P. Fuchs; F. Block; N. Pallua; *Neurologist* 2005

<sup>5</sup> Pain in your buttocks? Check your heated car seat isn’t burning you; KRM Rakowski, N Sivathasan and N Sivathasan; Letter to the Editor; *Spinal Cord*; September 14, 2010

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The problem has also been noted in publications aimed at the disabled. In 2008, *New Mobility* magazine featured a story about three paraplegics who suffered burns from car seat heaters.<sup>6</sup>

While there are no voluntary or mandatory standards governing seat heaters, there is immediate action your members can take to prevent these needless injuries.

We are requesting that the mobility adapters send out warnings to their customers alerting them to the dangers of seat heaters.

In the long-term, we are requesting that the mobility adapters and automakers' mobility programs develop a protocol to automatically disconnect seat heaters for disabled drivers with lower body sensory deficits.

We have prepared an overview describing the safety problem, the research on human heat tolerance, the current state of seat heater design, the history of seat heater investigations and recalls and our call to action for all stakeholders. It is attached for your reference.

I'd be happy to discuss this further with you at a mutually convenient time.

Sincerely,

A handwritten signature in black ink, appearing to read "Sean Kane", written in a cursive style.

Sean Kane

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<sup>6</sup> Escaping the Hot Seat; Bob Vogel; *New Mobility*; April 2008