

# Case study: A neuroischaemic foot lesion caused by plastic attachments to a hospital bed

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Increasing concerns about the transmission of hospital-acquired infections have led to the widespread distribution of alcohol-based handwash throughout hospitals. Reported here is the case of an individual who sustained a foot injury from brushing against a cut-off plastic cable tie that held the alcohol handwash bottle to the foot of his bed.

A 60-year-old man (Mr A) with type 2 diabetes and a past history of ischaemic heart disease, cerebrovascular disease and proliferative diabetic retinopathy presented with neuroischaemic ulceration affecting multiple digits on his right foot. Despite angioplasty and broad-spectrum intravenous antibiotic therapy, the foot developed critical ischaemia necessitating a below-knee amputation. Mr A then developed an ischaemic lesion on his third left toe. Angiographic assessment revealed significant stenosis in his superficial femoral artery, which was successfully treated by angioplasty. Following treatment, Mr A was transferred to a community hospital for rehabilitation. While there, routine inspection revealed a linear 7-cm cut across the plantar surface of his foot (Figure 1A). A bottle of antiseptic handwash had recently been attached to the foot of the bed, with the plastic cable ties (Figure 1B) cut short leaving a sharp edge. Thus, it was deduced that the sharp edges of the plastic ties had caused the injury, which went unnoticed by Mr A owing to neuropathy and poor vision. Although such an injury always has the potential to progress further, fortunately on this occasion, healing occurred following conservative treatment and did not delay his subsequent rehabilitation.

Increasing concerns about transmission of hospital-acquired infection have led to the widespread distribution of alcohol-based handwash throughout hospitals. Given that many individuals with diabetic foot disease are significantly affected by antibiotic-resistant bacteria (Dang et al, 2003; Hartemann-Heurtier et al, 2004), ongoing vigilance to maintain high standards of hand hygiene is entirely appropriate and should be encouraged. While there are previous reports of alcohol-based hand sanitisers causing injury in a hospital setting through intoxication (Doyon and Welsh, 2007; Emadi and Coberly, 2007), the author is unaware of any cases similar to the one presented here. Cutting cable ties is not standard practice and as far as the authors are aware, Mr A's incident remains a 'one-off'. However, this report emphasises the need for continual risk assessment when looking after people who, owing to impaired sensory ability, are reliant upon others to create a safe environment. Just as we urge all people with neuropathy to be vigilant, with particular respect to inspecting their footwear, it is equally important for healthcare professionals to be aware of their responsibility to keep hospital beds free from potential hazards.

## Author details

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Dang CN, Prasad YD, Boulton AJ, Jude EB (2003) Methicillin-resistant *Staphylococcus aureus* in the diabetic foot clinic: a worsening problem. *Diabetes Medicine* 20: 159–61

Doyon S, Welsh C (2007) Intoxication of a prison inmate with an ethyl alcohol-based hand sanitizer. *New England Journal of Medicine* 356: 529–30

Emadi A, Coberly L (2007) Intoxication of a hospitalized patient with an isopropanol-based hand sanitizer. *New England Journal of Medicine* 356: 530–1

Hartemann-Heurtier A, Robert J, Jacqueminet S et al (2004) Diabetic foot ulcer and multidrug-resistant organisms: risk factors and impact. *Diabetes Medicine* 21: 710–5

Figure 1. A. Plantar region of left foot with 7-cm cut caused by a cut-off tie holding handwash to the foot of the bed. B. An example of the handwash attached to the foot of the bed (in this case, the ties have not been cut and are safe).

