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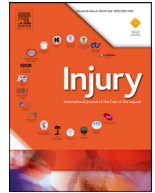
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## Injury

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## Letter to the Editor

**Open lower limb tibia and fibular fractures: a DIY safety warning**

Dear Editor,

During the COVID-19 global pandemic the British population's behaviours and activities changed due to movement restrictions [1]. Many took the opportunity to undertake larger household DIY projects. Leeds teaching hospitals Plastic Surgery services saw an increase in DIY related injuries [2]. We noticed a clear pattern of injury in a cohort of patients presenting to the lower limb service, following injury using step ladders. We would like to highlight these cases as a possible health risk.

The ladders found in the home tend to be made from aluminium, self supporting with a central hinge that creates an inverted V shape. They are easy to store in a home and allow someone to ascend to work on ceilings or garden hedges. The health and safety executive recommend them for short and low risk tasks only with safety information provided with each piece of equipment [3].

The Major Trauma Centre at the Leeds General Infirmary received three admissions with open lower limb fractures following the use of step ladders. The three patients were using lower ladders and fell from a height that would not usually lead to a complex open injury. However, their leg injuries became more complex due to the leg passing through the ladder and becoming lodged between the runs. This led to significant soft tissue loss and degloving require complex limb reconstruction with orthoplastic input. Two males and one female, aged 33, 43 and 37 respectively, were using step ladders to carry out common tasks such as hedge trimming, window cleaning and painting. None of the patients had any significant comorbidities. The fractures were all open 3b fractures of the tibia and fibula with the immediate management being carried out in local hospitals with debridement, external fixation and application of negative pressure dressing prior to transfer to the Leeds General Infirmary for definitive fixation and soft tissue repair. Orthopaedic teams used internal fixation and Ilizarov frames to restore the anatomical relationships of the bones. All patients required free muscle tissue transfer (gracilis) and split thickness skin grafting to achieve wound closure.

There were no postoperative complications. Our standardised postoperative protocol was used for all the flaps and the patients began physiotherapy before being discharged home. They are continuing to progress well.

This cluster of injuries related to a single and common piece of household equipment has led us to recommend a design change. Since all three people stated that their foot became trapped between the lower runs of the ladder it is proposed that a back board is placed on these steps to prevent one's foot becoming caught. It may be argued that these injuries are rare within the general population however they require significant surgical intervention with the associated risks.

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**Declaration of Competing Interest**

The authors would like to confirm that there are no conflicts of interest

**References**

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