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In reply: Is it time to initiate venothrombolism prophylaxis for acute and ambulatory outpatients with lower limb immobilisation?

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Dear Editor in Chief,

We read with great interest Horner and colleagues' recent practice review regarding thromboprophylaxis for isolated lower extremity injury.¹ The insight gained from this article, in addition to other recent large reviews, will improve the shared decision-making discussions we have with patients about prevention and risk of venous thromboembolism (VTE) with immobilisation. We have two comments regarding the generalisability and implementation of the study data.

Although immobilisation of the lower limb following injury is also a common management strategy from the emergency department (ED) in the USA, we have observed that there is little consideration of VTE prophylaxis compared with Europe. In the USA, there is minimal consensus and lack of distinct guidelines on the routine use of thromboprophylaxis with either oral anticoagulation or subcutaneous low-molecular-weight heparin (LMWH) for patients with prolonged immobilisation of the lower limb in operative and non-operative settings. This contrast is highlighted by conflicting recommendations for thromboprophylaxis from the American College of Chest Physicians paper in 2012 and the American College of Foot and Ankle Surgeons in 2015.²³ A Cochrane review from Zee *et al* recommended the routine use of LMWH for the entire duration of lower-extremity immobilisation; however, this recommendation may be poorly implemented in the USA due to a variety of factors that we have observed: scant information about this issue, lack of awareness of this recommendation, and the challenge that LMWH confers on patients with regard to education, cost, as well as minimal experience with self-injections.⁴ The UK, Germany, France and Australia have made development and installation of management

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guidelines a priority from the ED.¹⁵⁶ We thus, applaud their leadership in this field and hope there will be increased awareness of these issues in the USA.

Regarding implementation, the threshold to prescribe prophylaxis (and likely adherence) would be significantly lowered with an oral therapy. Direct oral anticoagulation (DOAC) therapies (non-vitamin K antagonists) may present a safe and efficacious alternative for use in the ED and outpatient setting.⁷ The majority of existing data regarding DOAC therapy for VTE hails from the oncology arena, suggesting that oral medications could be equivalently efficacious to LMWH.⁸ Further research is needed to assess the risk of VTE as well as the safety and efficacy of DOACs in ambulatory outpatients discharged from the ED, with lower extremity immobilisation within the complex US healthcare system. Additionally, increased awareness of this issue is critical among emergency and outpatient providers. A more in-depth analysis in the context of the US patient population, namely, through assessment of the burden of disease, installation of risk assessment tools and cost analysis. This is important as the USA is a diverse population with potentially different underlying risks of VTE. Furthermore, the US healthcare system can be more fragmented without a national health plan; different coverage by different insurers and timely follow-up may not always be available. We conclude that US professional organisations should work collaboratively towards developing guidelines to advise practice based on the current best evidence.

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