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## Correspondence regarding:

### 'Major lower limb amputation audit – introduction and implementation of a multimodal perioperative pain management guideline'

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Dear Editor

We read with interest the study by Aladin et al.<sup>1</sup> Amputees suffer significant postoperative pain, and a recent NCEPOD audit has highlighted that less than 40% of patients experience 'good' post-amputation pain relief.<sup>2</sup> The authors should be commended on their implementation of a protocolised multimodal approach to optimising pain relief, comprising pre-operative pain team review, intra-operative placement of a perineural catheter, and careful review of gabapentinoids and nerve catheter infusion in the post-operative period. We have recently completed recruitment to the Perineural Local Anaesthetic Catheter after Major lower limb amputation Trial (PLACEMENT; ISRCTN85710690; EudraCT number 2016-003544-37),<sup>3</sup> which randomised 50 amputees to placement of a sciatic/tibial nerve catheter with a 5 day postoperative infusion of local anaesthetic with best postoperative pain relief, or best postoperative pain relief alone. This feasibility study was designed to determine if a fully powered RCT was possible, but will also look at both immediate and long term pain outcomes, alongside the parallel development of a dedicated amputation Core Outcome Set.<sup>4</sup>

Whilst there are some low quality data to suggest perineural catheters reduce postoperative opioid consumption,<sup>5</sup> their effect on pain (phantom and non-

phantom) long term is almost completely absent from the literature,<sup>6</sup> and should it be possible, the effect of Aladin et al's multimodal protocol on longer term outcomes would be very welcome. We hope that our study will pave the way for future work to unpick the complex interplay between both patient characteristics and treatment options, and resultant pain. It is also interesting to note the improvement in pain seen in patients undergoing neuraxial blockade. There are limited data to corroborate this observation elsewhere.<sup>7</sup> Despite this the recent NCEPOD review showed the majority of amputations were performed under General Anaesthesia.<sup>2</sup> We wonder if this is an area worthy of further research. Lastly we are keen to emphasise that whilst pain relief is of significant importance to patients, the overall effect of any intervention on quality of life can be (and often is) overlooked. The anecdotal observation of the authors, highlighting the improvements seen in patient's engagement with physiotherapy with better pain relief, is crucial, and unpicking exactly what factors the post-operative amputee finds important is paramount in planning future trials in amputees.

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