



Bosanquet, D. C., Ambler, G. K., Waldron, C-A., Thomas-Jones, E., Brookes-Howell, L., Kelson, M., ... Twine, C. P. (2018). Major lower limb amputation audit - introduction and implementation of a multimodal perioperative pain management guideline. *British Journal of Pain*, 12(4), 257-258. <https://doi.org/10.1177/2049463718800736>

Peer reviewed version

License (if available):
CC BY-NC-ND

Link to published version (if available):
[10.1177/2049463718800736](https://doi.org/10.1177/2049463718800736)

[Link to publication record in Explore Bristol Research](#)
PDF-document

This is the author accepted manuscript (AAM). The final published version (version of record) is available online via Sage at <https://journals.sagepub.com/doi/10.1177/2049463718800736> . Please refer to any applicable terms of use of the publisher.

University of Bristol - Explore Bristol Research

General rights

This document is made available in accordance with publisher policies. Please cite only the published version using the reference above. Full terms of use are available:
<http://www.bristol.ac.uk/pure/about/ebr-terms>

Correspondence regarding:

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

David C Bosanquet^{1*}, Graeme K Ambler^{1,2}, Cherry-Ann Waldron³, Emma Thomas-Jones³, Lucy Brookes-Howell³, Mark Kelson³, Debbie Harris³, Deborah Fitzsimmons⁵, Neeraj Saxena^{6,7,8} and Christopher P Twine^{1,2}

Author Affiliations

1. Aneurin Bevan University Health Board, Royal Gwent Hospital, Cardiff Road, Newport, NP16 2UB.
2. Division of Population Medicine, Cardiff University, 5th Floor, Neuadd Meirionnydd, Heath Park, Cardiff, CF14 4XW.
3. Centre for Trials Research, Cardiff University, 7th Floor, Neuadd Meirionnydd, Heath Park, Cardiff, CF14 4XW.
4. Department of Mathematics, College of Engineering, Mathematics and Physical Sciences, University of Exeter, Exeter, UK
5. Swansea Centre for Health Economics, College of Human Health Sciences, Swansea University, Singleton Park, Swansea, SA2 8PP.
6. Department of Anaesthetics, Royal Glamorgan Hospital, Cwm Taf Local Health Board, Llantrisant, United Kingdom
7. School of Psychology, Cardiff University, Cardiff, CF10 3AX.
8. Psychology and Therapeutic Studies, University of South Wales, Pontypridd, CF37 1DL.

* Corresponding author. Email: davebosanquet@hotmail.com. Tel. +44 1633 234234.

Dear Editor

We read with interest the study by Aladin et al.¹ Amputees suffer significant postoperative pain, and a recent NCEPOD audit has highlighted that less than 40% of patients experience 'good' post-amputation pain relief.² 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),³ 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.⁴

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

phantom) long term is almost completely absent from the literature,⁶ 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 neuroaxial blockade. There are limited data to corroborate this observation elsewhere.⁷ Despite this the recent NCEPOD review showed the majority of amputations were performed under General Anaesthesia.² 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.

Funding

This project is funded by the Welsh Government through Health and Care Research Wales. This is through the Patient and Public Benefit (RfPPB) scheme, reference number 1198, and is sponsored by Aneurin Bevan University Health Board, Newport, South Wales (protocol number ABUHB/01/0816/1, version 1.3 dated 1 June 2017).

References

1. Aladin H, Jennings A, Hodges M, Tameem A. Major lower limb amputation audit—introduction and implementation of a multimodal perioperative pain management guideline. *British Journal of Pain* 2018;2049463718769339.
2. Lower Limb Amputation: Working Together. In: National Confidential Enquiry into Patient Outcome and Death; 2014.
3. Bosanquet DC, Ambler GK, Waldron CA, Thomas-Jones E, Brookes-Howell L, Kelson M, et al. Perineural local anaesthetic catheter after major lower limb amputation trial (PLACEMENT): study protocol for a randomised controlled pilot study. *Trials* 2017;**18**:629.
4. Ambler GK, Bosanquet DC, Brookes-Howell L, Thomas-Jones E, Waldron CA, Edwards AGK, et al. Development of a core outcome set for studies involving patients undergoing major lower limb amputation for peripheral arterial disease: study protocol for a systematic review and identification of a core outcome set using a Delphi survey. *Trials* 2017;**18**:628.
5. Bosanquet DC, Glasbey JC, Stimpson A, Williams IM, Twine CP. Systematic review and meta-analysis of the efficacy of perineural local anaesthetic catheters after major lower limb amputation. *Eur J Vasc Endovasc Surg* 2015;**50**:241-9.
6. Srivastava D. Chronic post-amputation pain: peri-operative management - Review. *Br J Pain* 2017;**11**:192-202.
7. Ong BY, Arneja A, Ong EW. Effects of anesthesia on pain after lower-limb amputation. *J Clin Anesth* 2006;**18**:600-4.