

Letter to Editor

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Reply to “Soleus muscle flap for reconstruction of lower extremity trauma. Workhorse or glue factory?”

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Dear Editor,

We read with interest your recently published article entitled “Soleus muscle flap for reconstruction of lower extremity trauma. Workhorse or glue factory?” by Kondra K, Jimenez C, Stanton E, Roohani I, Becerra J, Carey J. published in *Plast Aesthet Res* 2022;9:36. <http://dx.doi.org/10.20517/2347-9264.2021.121>. We would like to congratulate the authors for their contribution to this field and provide some additional insights from our own clinical practice in a major national trauma centre in the UK.

In their retrospective review of 187 local leg flaps, the authors indicated that the soleus muscle flap can be used as a workhorse for open lower limb fractures, including Gustilo-Anderson classification 3B and 3C injuries, which are by definition high energy. However, what the authors fail to highlight is that in high-energy open lower limb fractures, the zone of injury is extensive and often associated with severe damage to the local musculature of the lower limb, including the soleus muscle itself, thereby precluding its use for reliable reconstruction^[1,2]. This may explain their observed high levels of osteomyelitis/hardware infection. Rather than being limited by the reconstructive ladder, the recognized gold standard for lower limb reconstruction is to tailor it to the patient, defect, and injury characteristics to ensure the best clinical



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outcomes. Consideration of free flaps, which bring in healthy, well-vascularized tissue to enable fracture healing and prevent infection, is key in these situations^[3].

Additionally, the use of the soleus muscle flap for reconstruction has functional implications and is recognized to affect the weight bearing status of patients and their long-term ambulation^[4]. In their clinical series, the authors noted that only 35.3% of patients were able to ambulate independently after 7.5 months, which does not compare favourably with published reports of ambulation following free flap with a mean of 9.8 days and 13.4 days depending on the fracture treatment and prolonged rehabilitation^[5]. Therefore, we feel that this is another additional benefit of using free tissue transfer for lower limb reconstruction.

Kind Regards,
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DECLARATIONS

Authors' contributions

Contributed to the analysis of the previously published paper, review of related literature and produced the final letter: EL-Shishtawy K, Jessop Z, Marsden N, Emam A

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Conflicts of interest

All authors declared that there are no conflicts of interest.

Ethical approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

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