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Patient selection for endoscopic-assisted lower limb surgery

We read with interest the excellent paper by Basmacioglu et al.¹ describing a technique for endoscopic-assisted harvest of the medial gastrocnemius muscle flap. As a group, plastic surgeons have been relatively slow to use the improving technology of endoscopic surgery to facilitate our operations. We are particularly happy to see this progression of a technique first described by the senior author in 1997.²

Lower limb endoscopy remains a challenging and potentially hazardous technique with a number of possible pitfalls. Soft tissue endoscopy relies on the creation of an optical cavity, which is difficult both to produce and maintain. Most limb endoscopy requires dissection between anatomical planes to create such a space and retraction to maintain it. The technique, therefore, relies on tissue elasticity as much as good quality optics. Since the limb can be considered as an inverted cone shape it is generally true that the further distal one moves on the limb the more difficult the technique becomes. This is a consequence of the reduction in size of the

limb and, therefore, absolute extensibility when stretch is applied.

In clinical practice, this has a number of important consequences. Particular attention should be paid to patient status. Any factor, which results in reduction in skin quality, such as steroid usage, should be noted as we have experience of a clinical case in which retraction lead to tearing of the skin. It is also important to elicit any history of previous injury (e.g. fractures) or hobbies (e.g. contact sports or martial arts), which may lead to recurrent trauma. Such damage may result in the loss of normal anatomical planes as a consequence of fibrosis and scarring. We have personal experience of a young male kick boxer in whom all anatomical tissue planes were apparently destroyed and endoscopic-assisted Sural nerve harvest rendered impossible.

Basmacioglu et al. point out that this technique is of particular advantage in the treatment of younger patients in whom the avoidance of sizeable scar is desirable. Unfortunately in our experience the majority of patients who would appear to be best served by such a technique are elderly with one or more risk factors for poor skin quality.

Distal limb endoscopic-assisted surgery continues to be a technically challenging procedure and, therefore, one must take into account adverse patient factors. Despite this it remains a useful technique with much to offer to the Plastic and Reconstructive surgeon.

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