

LETTERS TO THE EDITOR

Regarding "Through-knee amputation in patients with peripheral arterial disease: A review of 50 cases"

In the article by Morse et al,¹ the authors raise the profile of through-knee amputation for unreconstructable peripheral arterial disease in North America. Through-knee amputation (TKA) has become increasingly popular in Europe, as the authors point out in their article. At the Sheffield Vascular Institute, we prefer the modified Gritti-Stokes amputation.² This has similar advantages to the modified Mazet technique used by the authors, in that it avoids the high incidence of wound complications and synovial leaks associated with preservation of the femoral condyles. It also avoids the bulbous stump that makes prosthetic fitting virtually impossible. One advantage of the modified Gritti-Stokes amputation over the modified Mazet technique is that the patella, except for the articular surface, is retained (Fig). This reduces the risk of compromising perfusion of the skin of the anterior flap which might explain why the need to convert to above-knee amputation as a result of non-healing wounds is very uncommon in our practice compared with 19% of patients (9/47) in the authors' series. Another advantage is that the patella is locked over the end of the femur, which improves quadriceps function and proprioception.

We usually use the modified Gritti-Stokes amputation for patients who seem unlikely to limb-wear. The longer stump, compared with an above-knee amputation (AKA), helps transferring and also provides better stability in a wheelchair, especially for bilateral amputees. I was interested that the authors were promoting TKA rather than AKA for patients with the potential for limb-wearing and were still performing a large number of amputations in a ratio of 9:1, presumably for patients who were deemed unlikely to ambulate. Perhaps the authors should also consider using TKA for these patients?

It seems that the time has come for a trial comparing wound healing using the modified Mazet technique vs the modified Gritti-Stokes technique for TKA. A trial of TKA vs AKA might also be justified in view of the authors' excellent results.

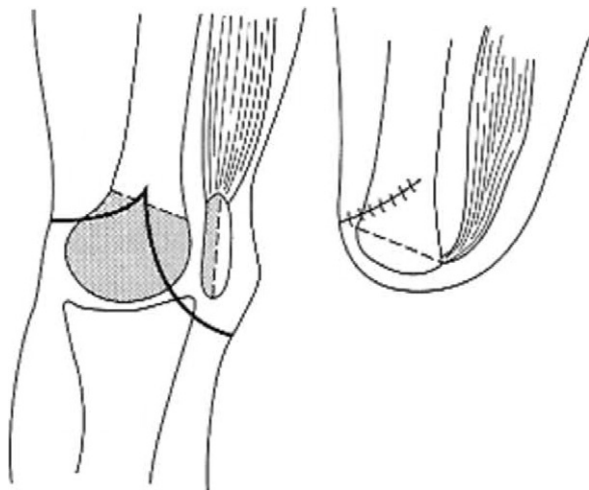


Fig. Gritti-Stokes amputation. The anterior and posterior skin flaps are based on the tibial tuberosity and popliteal skin crease respectively. The articular surface of the patella is removed and the femur immediately above the articular surface transected with a 45-degree backward angle to lock the patella. The patella tendon is then sutured to the hamstring tendons.

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Reply

We would like to thank Dr Beard for his interest and kind comments regarding our article "Through-knee amputation in patients with peripheral arterial disease: A review of 50 cases". Indeed it is surprising that the through-knee amputation for patients with peripheral vascular disease has apparently flourished in Europe and has been abandoned in the United States.

Over the last two decades, a number of articles have been published reporting the healing rates and rehabilitation outcome of the standard through-knee and Gritti-Stokes amputation.¹⁻⁴ The conflicting conclusions derived from these largely retrospective studies regarding the superiority of one amputation technique over the other are probably related to differences in patient selection, procedure indications, and surgical technique. The modified Mazet through-knee amputation technique described by our article has significant advantages to the standard through-knee amputation technique reported in these previous series. By shaving the femoral condyles and removing the patella, a conical stump is created thereby allowing use of a suction socket which is easy to apply and avoids the belts and straps necessary to don the above-knee prosthesis. Furthermore, the technique minimizes the length of the tissue flaps needed for wound closure resulting in an acceptable wound healing rate of 81%.

We have no experience with the Gritti-Stokes amputation. Dr Beard utilizes this amputation technique primarily for patients who are not candidates for prosthesis-wearing. In our practice, we have performed above-knee amputation for patients who are nonambulatory and have reserved the through-knee amputation for patients who are candidates for prosthesis ambulation. Dr Beard provides a compelling argument for the use of the Gritti-Stokes amputation, particularly for the nonambulatory patient.

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