

TYPE OF INCISION FOR BELOW KNEE AMPUTATION

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ABSTRACT

Background

Below knee amputation (BKA) may be necessary in patients with advanced critical limb ischaemia or diabetic foot sepsis in whom no other treatment option is available. There is no consensus as to which surgical technique achieves the maximum rehabilitation potential.

Objective

To look at the evidence comparing different surgical techniques for BKA using stump healing, wound infection, reamputation rate, and mobility with a prosthetic limb as outcome measures.

Criteria for considering studies for this review

The Cochrane Peripheral Vascular Diseases Group searched their Specialised Register for randomised controlled trials (RCTs) comparing different types of incision for below knee amputation (last searched July 2008) and the Cochrane Central Register of Controlled Trials (CENTRAL) in The Cochrane Library (last searched 2008, Issue 3). Additional searches were made of bibliographies of papers found through these searches and also by handsearching relevant journals.

Selection criteria

Randomised controlled trials comparing two or more types of skin incision for BKA were identified. All patients with lower limb ischaemia (acute or chronic), diabetic foot sepsis, or both were considered for inclusion. Patients undergoing below knee amputation for other conditions were excluded.

Data collection and analysis

Three studies were included in the analysis: two-stage versus one-stage BKA; skew flaps BKA versus long posterior flap BKA; and sagittal flaps BKA versus long posterior flap BKA. Data were extracted independently by both authors.

Main results

BKA using skew flaps or sagittal flaps conferred no advantage over the well established long posterior flap technique. For patients with wet gangrene, a two-stage procedure with a guillotine amputation at the ankle followed by a definitive long posterior flap amputation leads to better primary stump healing than a one-stage procedure.

Authors' conclusions

Evidence suggests that the choice of amputation technique has no effect on outcome and can, therefore, be a simple matter of surgeon preference. Factors which might influence this include previous experience of a particular technique, the extent of non-viable tissue, and the location of pre-existing surgical scars.
