

## Lower Limb Bypass for Intermittent Claudication

### Is it Really Worth the Risk?

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Claudication is one of the best defined clinical symptoms, indicating the presence of functional ischaemia, that is, the inability of blood flow to meet the increased metabolic demands of exercising muscles. It is not a limb-threatening condition.

It is well known that with vigorous risk factor management, symptoms can stabilize and even improve (1,2,3). Large historical studies such as the Framingham study revealed that after 8.3 years of following patients with intermittent claudication, only 1.6% required amputation (4). Furthermore, intervention in the form of distal reconstruction can potentially lead to graft failure and ensuing limb loss. One series of femorotibial bypass grafting reports a 24.4% amputation rate and a 3.9% mortality rate (5). It may therefore appear to be surgical overkill to operate on patients with claudication since dire complications could arise in treating this relatively benign condition.

However, a small number of patients are significantly affected by the confines of their claudication distance (6). Care providers must take into consideration the individual needs of the patients, including the effects of claudication on employment.

A given claudication distance may not affect an office worker, but certainly have an impact on farmworkers. Claudicants usually have coexisting coronary artery disease, and the limits on exercise imposed by calf pain may adversely affect cardiac rehabilitation programmes (7). In the Caribbean, where diabetes mellitus is prevalent, the effects of claudication are particularly important as the severity of ischaemia progresses rapidly in the disease.

Looking at the whole picture, some centres decided to cautiously extend the use of distal bypass grafting to those claudicants who failed to respond to conservative therapy and those who were severely limited in their social and professional functions (8). Byrne and colleagues (9) performed 409 bypasses for intermittent claudication. Their patency rates using in situ vein conduit were excellent, with overall mortality of 0% and limb loss occurring in only one patient (0.25%). Conte and colleagues (10) also report similar findings, questioning the validity of the concern of limb loss in treating this condition.

From a functional point of view, results are encouraging, with excellent patency rates and low amputation rates. But does the patient really benefit from such intervention? Quality

of life studies have shown that claudication impairs all aspects of the patient's life (11, 12). Both balloon angioplasty and surgical revascularization have vastly improved quality of life measures in the claudicant (13). While one can extrapolate from functional studies that there will be an implied contribution to the quality of life after bypass grafting, further quality of life studies must be done to fully assess the effect of surgical intervention on intermittent claudication.

Clearly, the concerns of amputation are overstated. Infra-inguinal bypass for intermittent claudication is a safe option, with low morbidity and mortality provided that there is careful patient selection, availability of autogenous vein and a technically competent unit dedicated to vascular reconstructive procedures.

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