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# Cost-effectiveness of lower extremity nerve decompression surgery in the prevention of ulcers and amputations: a Markov analysis.

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## INTRODUCTION

The costs associated with diabetic foot disease are an increasing burden to society. In selected patients, lower extremity nerve decompression (LEND) reduces complaints of neuropathy and the concomitant risks of ulcers and lower extremity amputations. To estimate the health and economic effects of this type of surgery, cost-effectiveness of this intervention was studied.

## METHODS

A Markov model was developed to simulate the onset and progression of diabetic foot disease in patients with diabetes and neuropathy receiving current care, compared to a group who undergo LEND surgery. Current care was the reference comparison. Mean survival time, quality of life, foot complications and costs were the outcome measures assessed. Data from the Rotterdam Diabetic Foot Study were used on the epidemiology of diabetic foot disease, resource use and costs, complemented with information from international studies to feed the model.

## RESULTS

Compared to current care, LEND surgery resulted in improved life expectancy, gain of quality-adjusted life-years (QALYs) and reduced incidence of foot complications. The 10-year costs of management of the diabetic after decompression surgery resulted in a cost per QALY gained of <€25.000.

## CONCLUSIONS

Decompression surgery of lower extremity nerves improved survival, reduces diabetic foot complications, is cost-effective and even cost saving compared with standard care.

The cumulative costs for every cycle during 10 years of cohort simulation, NDS (LEND surgery) compared to Current Best Care

