

MULTIDISCIPLINARY CARE TEAMS REDUCE RISK OF MAJOR AMPUTATION IN PATIENTS WITH DIABETES

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Clinical Question: For patients with diabetes, does the integrative care of multidisciplinary teams help mitigate the risk of major amputation as compared to traditional diabetic care?

Background: 589 million adults worldwide live with diabetes mellitus (DM), and this number is predicted to rise to 853 million by the year 2050.¹ DM increases the risk of lower-limb amputation;² diabetic foot ulcers (DFU) are the leading cause of non-traumatic lower-extremity amputation (LEA),³ and patients with DFU are 10-20 times more likely to experience LEA than those who do not have DM.³ Thus, there is a vested clinical interest in improving the treatment and prevention of DFU, and, subsequently, LEA in patients with diabetes.

Since DM is a multi-organ systemic disease, multidisciplinary care teams (MCT) can most effectively manage the complications of this condition.⁴ By understanding and empirically proving the benefits of MCT for diabetes care, healthcare providers can advocate for their patients, improving outcomes. This will lead to higher patient satisfaction and quality of life, reduce the economic burden of DM care, and raise the standard of care for the 1 in 9 adults¹ worldwide living with DM.

The purpose of this CAT is to demonstrate how an integrated care approach using MCT can reduce the risk of major amputation and improve outcomes for patients with DM.

Search Strategy:

Databases Searched: PubMed and CINAHL

Search Terms: "amputation" AND "diabetes" AND "risk" AND "multidisciplinary" AND "outcomes"

Inclusion/Exclusion Criteria: Original research, peer-reviewed and published, English language, within the date range 2016-2026 (past 10 years), includes patients with diabetes at risk for amputation

Synthesis of Results:

*One study, Wang et al., was found indirectly through cross-referencing citations from included articles.

Three studies examined the relationship between the implementation of specialized MCT and specific outcomes for patients with DM,³⁻⁵ with two of these focused on patients with active DFU.³⁻⁴ All studies were representative of a relatively small sample size and were all localized to varied geographical areas, including Singapore,³ China,⁴ and Canada.⁵ All studies introduced MCT to diabetic care, with two programs focused specifically on amputation prevention or limb preservation.^{3,5} Multidisciplinary teams consisted of podiatrists,^{3,5} diabetic nurses,³⁻⁴ wound nurses,³ endocrinologists,³⁻⁵ vascular surgeons,³⁻⁵ plastic surgeons,³⁻⁴ reconstructive surgeons,³ infectious disease physicians,^{3,5} orthopedists,⁴⁻⁵ nutritionists,⁴ internal medicine physicians,⁵ and/or pedorthists.⁵

Two studies³⁻⁴ measured a correlation between MCT and amputation rate directly, with one study finding that the MCT increased the length of time to amputation³ and one indicating a direct relationship between the MCT and reduced frequency of major amputation.⁴ The final study found that the MCT reduced hospitalization rates and length of inpatient hospital stays for patients with DM, indirectly showing a lower utilization of care that may indicate fewer extensive complications such as amputation.⁵

Clinical Message: The results of this CAT indicate that multidisciplinary teams, potentially including pedorthists and/or orthotists (whose scope of practice encompasses that of the pedorthist), may play a role in reducing the risk of complications including LEA for patients with DM, with or without DFU. Thus, all clinicians should encourage multidisciplinary care for patients with diabetes and collaborate across professions on diabetic care to improve outcomes for this patient population. Further research should explore what the pedorthist/orthotist's role should ideally be in ensuring the success of such MCT.

References:

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