

LIMB PRESERVATION CENTERS

Benefit To Patients, Physicians And Health Care Systems: How To Create One

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DISCLOSURES

- Limb preservation centers of America : Founder
- Amputation Prevention Experts Health Care Network: Chief Medical Officer

MISSION

- The mission of a Limb Preservation Center is to prevent major lower limb amputations, improve quality of life and maximize mobility and independence for patients

LOWER EXTREMITY AMPUTATION STATISTICS

Amputation Statistics 2021

• Total # of lower extremity amputations/year in U.S.	150,000
• Vascular etiology in patients with diabetes	82%
• Risk of amputation with diabetes vs. no diabetes	30x greater
• Cost on healthcare system annually	>\$4 Billion

Reference: Mishra CS, Fialk JB. Lower Extremity Amputation. [Updated 2021 Aug 25]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK544204/>

THE SOLUTION

- Build a clinical team comprised of experts in the field of limb preservation, who ensure continuing education, training and adherence to evidence based clinical pathways to ensure high quality care
- The LPC functions as a center of excellence and a hub for referrals from a wide service area and beyond

FOUR PILLARS OF LIMB PRESERVATION

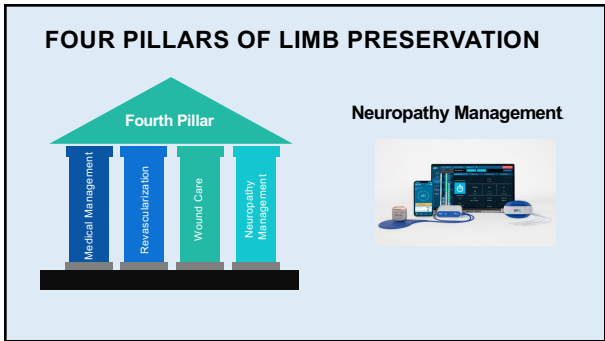
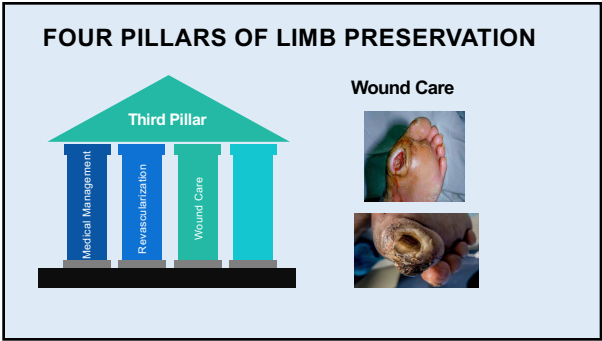
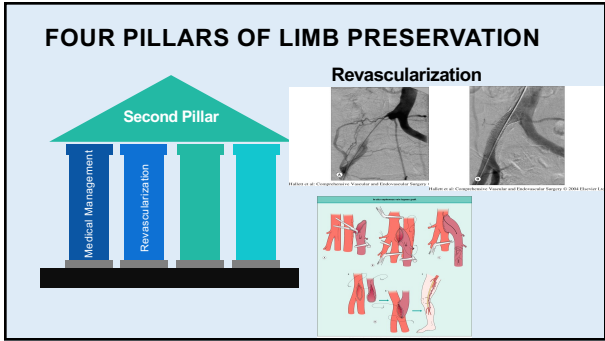
Medical Management

CARDIOVASCULAR DISEASE

ATHEROSCLEROSIS

RISK FACTORS

FAMILY HISTORY



MODELS

- Management service
- Self directed

PROGRAM GOALS

- Reach as many patients in need as possible
- Facilitate referrals to other providers
- Case management
- Prevent amputations
- Track outcomes

ESSENTIAL COMPONENTS

A successful LPC includes:

- A multidisciplinary team of providers led by endovascular physician(s) and surgical podiatrists
- Access to subspecialists
- Access to an office-based endovascular center/ASC/HOPD
- A wound care clinic to treat leg and foot wounds and other non-healing wound conditions (pressure sores, post-operative non-healing wounds, etc.)
- Hyperbaric oxygen treatment
- Data management/dedicated electronic medical record
- Easy access to hospital services/urgent admissions
- A vascular lab/vascular screening
- Spinal implant to modulate diabetic neuropathy
- Rehabilitation services

IMPACT OF MULTIDISCIPLINARY TEAM

- Systematic reviews have reported that multidisciplinary limb care reduces the risk of major lower extremity amputation by 10% to 30%
- There is a 31% relative risk reduction in either major or minor lower extremity amputation in patients with DFU
- Relative risk reduction was 55% in major Lower extremity amputation.

*Effect of contact with podiatry in a team approach context on diabetic foot ulcer and lower extremity amputation: systematic review and meta-analysis: [Virginie Blanchette](#), [Marcel Brousseau-Foley](#) & [Lyne Cloutier](#), *Journal of Foot and Ankle Research* volume 13, Article number: 13 (2020)

PATIENT SATISFACTION

Patient satisfaction is a key component of the comprehensive program. The following indicators should be used to assess patient satisfaction in self-surveys:

- Friendly environment
- Easily accessible care
- Expedient referral system
- Procedures performed in timely manner
- Patient education relevant, clear and concise
- Prevention of recurrence and/or further complications addressed

BENEFITS TO PATIENTS

• Outcomes

- Decrease in amputation rates
- Back to work for work comp
- Improves quality of life
- Emphasis on prevention

• Access

- Many services available in one place
- No delay in treatment
- Highest standard of care in community

BENEFITS TO PRACTICE

• Financial

- Positive contribution margin starting in year one
- Increase volume in OBL/ASC

• Clinical

- Center of excellence
- Evidence based care
- Quality outcomes

BENEFITS TO PHYSICIAN

• Knowledge

- Advanced wound care and hyperbaric training courses
- Evidence-based clinical pathways for better outcomes
- Efficient practice model for complex patients

• Financial

- Additional revenue stream from clinic visits and procedures
- Additional revenue stream for MDs from hyperbaric supervision
- Increase in surgical volume
- Ability to recruit

BENEFIT TO HEALTH CARE SYSTEM

The lifetime economic burden of amputees is substantial. A national limb salvage program may reduce this burden by \$15.2 to \$38.5 billion.*

* Impact of a Limb Salvage Program on the Economic Burden of Amputation in The United States
[S.Bell](#), [C.Gunnerson](#), [H.Krollitz](#), [D.J.Mednesser](#), [R.Zhang](#), [J.B.Rizzo](#)

Save Limbs and Life



ECONOMIC BURDEN TO HEALTH CARE SYSTEM

- The annual direct healthcare costs of diabetes in the US are estimated to total \$273 billion USD and \$90 billion in indirect costs.
- One third of patients with diabetes will develop a foot ulcer during their lifetime,
- The ulcer will result in 20% incidence of minor or major amputation
- Diabetic foot ulcers and their sequelae account for at least 20% of the total healthcare costs of diabetes; this represents at least \$54 billion in annual direct costs.
- In persons with diabetes and/or PAD, inpatient costs related to lower extremity wounds or ischemia, especially for treatment of infection, revascularization, and minor or major LEA, are estimated to account for 50% to 80% of excess healthcare expenditures compared to matched controls

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doi:10.1053/j.seifvascsurg.2023.01.007.