



A Patient's Guide to Prevent Lower Extremity Amputations: An American Limb Preservation Society (ALPS) Initiative

By Virginie Blanchette PhD DPM MSc Biomed and Matthew C Bunte MD MS FSVM FSCAI FACC

How to cite: Blanchette V, Bunte MC. A patient's guide to prevent lower extremity amputations: an American Limb Preservation Society (ALPS) initiative. Wound Care Canada. 2024;22(2):32-36. DOI: 10.56885/LHYR3902

Recently, the Limb Preservation Alliance,¹ an international collaborative alliance, was formed between four founding organizations: American Limb Preservation Society (ALPS), the Canadian Podiatric Medical Association, D-Foot international and Wounds Canada. The purpose of this alliance is to advance limb preservation, education, advocacy and awareness. With the aim of sharing and mobilizing knowledge within the alliance, the ALPS education committee, with the help of patients who have experienced diabetic foot disease, have developed a patient resource to provide facts about foot and leg wound prevention and management and act against preventable amputation. We therefore introduce this online resource to the wound care community and explain who, how and why it was developed at the ALPS.

The Resource: Guide for Patients To Act Against Preventable Lower Extremity Amputation

The resource is freely available on the ALPS website: <https://limbpreservationsociety.org/wp-content/uploads/2024/10/Guide-for-Patients-to-Act-Against-Preventable-Lower-Extremity-Amputation.pdf>

The guide has been authored by a geographically and professionally diverse team of interdisciplinary foot and wound care specialists, including international experts in podiatry and vascular care, with content reviewed by patients. The document has four sections: (1) Summary; (2) Patient Experience with Wounds; (3) Foot and Wound Care Standard and (4) Limb Preservation Resources. Key suggested resources are included at the end of the document and will be updated as necessary. Patients (or their caregivers) can simply access and explore these insightful resources via the included active web link.

The document includes a few simple figures and tables to facilitate understanding and rapid aggregation of the information. Finally, a glossary of medical and technical terminology has also been included at the end of the document. For practical use, it is easy to spot the words, included

in the glossary, as they have been highlighted in bold red throughout.

Who is ALPS And How Was This Guide Produced?

The American Limb Preservation Society (ALPS) has a vision to eliminate preventable leg amputations over the next generation. ALPS intends to fulfill that objective with a mission to promote interdisciplinary teams to advance the science, clinical care, advocacy, awareness and education of limb preservation through increased access to resources and specialized care that improves patient-centered outcomes.² Education and patient engagement are central to the mission of ALPS.

By the end of 2022, ALPS had launched its education committee as an advisory committee to the chief executive officer and board of directors. Their role is to act as a sounding board for creating strategies and educational tools and to provide feedback, as requested by the team, that align with the organization's mission and are consistent with its core values. The committee also facilitates discussion about program priorities for the organization, including public policy and advocacy.

Contributors

The following list features contributors to the committee, along with their specialty and institutional affiliation.

- Matthew Bunte MD MS: vascular medicine & interventional cardiology. Saint Luke's Mid America Heart Institute, Kansas City, MO, USA
- Virginie Blanchette PhD DPM MSc BSc podiatry. University of Quebec in Trois-Rivières, Trois-Rivières, QC, Canada
- Jayer Chung MD MS: vascular surgery. Baylor College of Medicine, Houston, TX, USA
- Windy Cole DPM: podiatry. Kent State University College of Podiatric Medicine, Independence, OH, USA
- Korey DuBois DPM: podiatry. Wilmington VA Medical Center, Wilmington, DE, USA
- Robert Frykberg DPM MPH: podiatry.

Midwestern University, Glendale, AZ, USA

- Dave Griffin DPM: podiatry. Northwest Permanente Medical Group, Portland, OR, USA
- Joseph Hart MD MHL: vascular surgery. Froedtert & Medical College of Wisconsin, Milwaukee, WI, USA
- Belinda Jimenez DPM student: podiatry, Western University of Health Sciences, Pomonca, CA, USA
- Charles Parks DPM: podiatry. University of California-San Francisco, San Francisco, CA, USA
- Aaron Ritter DPM: podiatry. Central Arkansas Veterans Healthcare System, Little Rock, AR, USA
- Marcos Coutinho Schechter MD: infectious disease, Emory University School of Medicine, Atlanta, GA, USA
- Sanjay Sharma DPM: podiatry. APTA Foot Secure, Bengaluru, Karnataka, India
- Tilden Sokoloff, Professor Emeritus: surgery. Merritt University of Health Sciences and Samuel Merritt Hospital, CA, USA
- Kazu Suzuki DPM: podiatry. Cedars Sinai Medical Center, Los Angeles, CA, USA
- Dominique Woods MD MPH: general surgery. CEO of Limitless Impact Foundation, Los Angeles, CA, USA

ALPS Staff:

- Georgia Krehbiel, MBA. CEO of ALPS
- Annkathrin Mathe MSc. Program Director of ALPS

For a complete list of accreditations and affiliations, see: <https://limbpreservationsociety.org/education-committee/>

In addition, as patient engagement is at the heart of ALPS, this guide was developed in collaboration with the organization's patient partners. Recent studies have demonstrated the added value of developing patient resources with the end users of knowledge, as well as the urgent need to strengthen collaboration and partnership with patients with diabetic foot disease -- at the levels of care, research, organizational, education/

academics and policy — to co-produce health.^{3,4} Therefore, although the committee formed the original texts of the guide, the definition of content was based on identified patient needs. Patient partners commented on the document during the process and reviewed the final version to ensure readability and comprehension of the information.

We can thus affirm that this guide was co-constructed. There were seven patients partners involved for this project, all of whom had at least one of the following conditions: at-risk diabetic feet, peripheral vascular disease, a history of lower extremity amputation and/or diabetic foot ulcers. The patients' expertise in these challenges added first-hand experience and wisdom to inform and inspire this work. ALPS was also careful to include patients from the context of vulnerability, as well as be concerned about representativeness in terms of equity, diversity and inclusion (e.g., socio-economic background, ethnicity, gender). It is well known that these variables influence the evolution of the diabetic foot and amputations.⁵⁻⁷

Finally, given the importance of adapting to the target audience and its level of health literacy and education, the guide has been written in clear and synthetic language. The language level used -- between grades six and seven -- is recommended for the public and patients.⁸ Therefore, we have developed the resources along with an online software that enables us to reach this level of language. Recent studies have demonstrated that there is an association between health literacy and diabetic foot disease, its risk factors and outcomes. Optimal diabetic foot education for self-management improves the level of knowledge and behaviour of patients with diabetes, without affecting their self-efficacy.^{9,10}

Why Was The Guide Developed?

The production of this guide stems from the need identified by the ALPS Board of Directors and by the organization's patient partners. It should also be remembered that, although the organization is young, the experience and accumulated expertise of the various ALPS stakeholders are well placed

to meet — at least try to meet— the needs of their patients, the limb preservation community and the interprofessional limb preservation team. This is in alignment with the international collaborative alliance formed between four founding organizations: American Limb Preservation Alliance (ALPS), the Canadian Podiatric Medical Association, D-Foot international and Wounds Canada, during fall 2023.¹

This guide was developed to address key aspects of wound treatment to equip patients with knowledge to promote patient confidence when seeking care. The goal of this document was to guide patients and their advocates in understanding the causes and potential consequences of lower extremity wounds, key elements to consider when seeking care, where to seek care in the community and what to expect during treatment.

We hope these resources provide patients and their advocates with the opportunity to understand the circumstances of their condition and receive care that promptly heals the wound. The presence of lower extremity wounds can contribute to uncertainty and anxiety for the patient.^{11,12} Even more, many patients with lower extremity wounds are not adequately informed about treatment options, experience uncertainty on where to seek care and may receive poorly coordinated care even after wound treatment is initiated.

Conclusion

The ALPS intent with this guide is to support patients, their advocates and their aligned health-care and social providers to work together to maximize the opportunity to preserve the lower extremity and avoid unnecessary amputations. We hope these resources may be useful in your practice and to be disseminated without limit in the community to achieve maximum knowledge mobilization to act against amputation.

Conflict of Interest

Dr. Bunte is a consultant to Abbott, Shockwave Medical, Inari Medical and Amgen and has received research funding from Johnson &

Johnson and Inari Medical. Dr. Blanchette has no conflicts of interest to declare.

Virginie Blanchette* PhD DPM MSc Biomed

is a podiatrist and an Associate Professor at the Université du Québec à Trois-Rivières, Canada. She is a knowledge mobilization researcher for the prevention and management of diabetes-related foot complications. She is a member of the ALPS educational committee.

Matthew C Bunte MD MS FSVM FSCAI FACC is Associate Professor of Medicine at the University of Missouri – Kansas City, United States and an interventional cardiologist and vascular medicine specialist with the Saint Luke's Mid America Heart Institute. He is committed to comprehensive management of patients with chronic limb-threatening ischemia and serves as the chair of the ALPS educational committee.

***Contact information:** info@alpslimb.org

References

1. Corks I, Papadopoulos P. Limb Preservation Alliance: behind a new global initiative in limb preservation education, advocacy and awareness. *Limb Preservation Journal*. 2024;5(1):16-20. DOI:10.56885/MFGT6621
2. Crews RT, Lepow BD, Mills JL, Conte MS, Najafi B, Steinberg JS, et al. A limb is a peninsula and no clinician is an island: Introducing the American Limb Preservation Society (ALPS). *Foot & Ankle Surgery: Techniques, Reports & Cases*. 2021;1(1).
3. Kovacs Burns K, Bellows M, Eigenseher C, Gallivan J. 'Practical' resources to support patient and family engagement in healthcare decisions: a scoping review. *BMC health services research*. 2014;14:1-15.
4. Blanchette V, Todkar S, Brousseau-Foley M, Rheault N, Weisz T, Poitras M-E, et al. Collaboration and partnership in a five-level engagement framework for diabetic foot ulcer management: a patient-oriented scoping review. *Canadian Journal of Diabetes*. 2023; 47(8): 682-694.e17
5. Martinez OP, Storo K, Provenzano Z, Murphy E, Tomita TM, Cox S. A systematic review and meta-analysis on the influence of sociodemographic factors on amputation in patients with peripheral arterial disease. *Journal of Vascular Surgery*. 2024;79(1):169-78. e1.
6. McDermott K, Fang M, Boulton AJ, Selvin E, Hicks CW. Etiology, epidemiology, and disparities in the burden of diabetic foot ulcers. *Diabetes Care*. 2023;46(1):209-21.
7. Gasoyan H, Hussain SR, Wright WG, Sarwer DB. Disparities In Diabetes-Related Lower Extremity

Amputations In The United States: A Systematic Review: Systematic review examines disparities in diabetes-related lower extremity amputations in the United States. *Health Affairs*. 2022;41(7):985-93.

8. Lipari M, Berlie H, Saleh Y, Hang P, Moser L. Understandability, actionability, and readability of online patient education materials about diabetes mellitus. *American Journal of Health-System Pharmacy*. 2019;76(3):182-6.
9. Chen P, Elmer S, Callisaya M, Wills K, Greenaway T, Winzenberg T. Associations of health literacy with diabetic foot outcomes: a systematic review and meta-analysis. *Diabetic Medicine*. 2018;35(11):1470-9.
10. Yildirim Ayaz E, Dincer B, Oğuz A. The effect of foot care education for patients with diabetes on knowledge, self-efficacy and behaviour: systematic review and meta-analysis. *The International Journal of Lower Extremity Wounds*. 2022;21(3):234-53.
11. Jiang F-H, Liu X-M, Yu H-R, Qian Y, Chen H-L. The incidence of depression in patients with diabetic foot ulcers: a systematic review and meta-analysis. *The International Journal of Lower Extremity Wounds*. 2022;21(2):161-73.
12. Ahmad A, Abujbara M, Jaddou H, Younes NA, Ajlouni K. Anxiety and depression among adult patients with diabetic foot: prevalence and associated factors. *Journal of clinical medicine research*. 2018;10(5):411.



Not all dressing combinations are made equal

– only Aquacel® Foam dressing has been designed to work in synergy with the Aquacel® family of primary dressings, to help achieve optimal performance.^{2,5}



The use of this dressing regime can help optimise:

- Effective management of exudate.^{1,2}
- Help prevent peri-wound maceration.⁶
- Protect peri-wound skin.⁶
- Promote wound healing.⁷
- Manage biofilm and infections^{4,5}

This may improve patient comfort and clinical outcome.³

References:

1. PARTNER observational study: Preliminary results on the utility of the combination of two dressings in the management of acute and chronic wounds in private practice. TOMASI, J, Yvon, C, Lucas, A. P20, poster presented at Journées Cicatrisations, Paris, France, 26-28 Jan 2020
2. Visual Assessment of Fluid Handling by Aquacel® Extra covered by Different Foam Dressings WHR15397 MS147. Data on file, ConvaTec Inc.
3. Mixing Wound Dressings: Does it Affect Clinical Outcomes, Tickle, J. Poster presented at World Union of Wound Healing Societies, Florence, Italy 2016.
4. Bowler PG, Parsons, D. Combatting wound biofilm and recalcitrance with a novel antibiofilm Hydrofiber® wound dressing. *Wound Medicine*. 2016; 14: 6-11.
5. Newman, G.R., et al., Visualisation of bacterial sequestration and bactericidal activity within hydrating Hydrofiber wound dressings. *Biomaterials*. 2006. 27(7): p. 1129-39.
6. Robinson BJ. The use of a Hydrofibre dressing in wound management. *J Wound Care*. 2000;9(1):32-34.
7. Bishop SM et al. Moisture balance: optimising the wound dressing interface. *J Wound Care*. 2003;12:125-128

©2024 ConvaTec Inc. All trademarks are property of their respective owners. AP-66334-CAN-ENG-v1

For more information, please call our Customer Relations Center (Registered Nurses on staff) at **1-800-465-6302**, Monday through Friday, 8:00 AM to 6:00 PM (EST), or visit convatec.ca

