

Advancements And Challenges In Diabetic Foot Care: A Comprehensive Exploration Of A 50-Year Journey

Presenter: Professor William J Jeffcoate MB MRCP

Abstract: Professor William Jeffcoate is a highly regarded authority in the realm of diabetic foot care. In this presentation from the *2023 Global Meet of Diabetes Awareness Week* symposium by D-Foot International, Prof. Jeffcoate shared profound insights derived from his extensive five-decade experience. This document seeks to distill key highlights from his presentation, providing an examination of the evolution of diabetic foot care, the encountered challenges and potential pathways for future research.

Key words: *diabetic foot care, advances, quality improvement, challenges, interdisciplinary collaboration, population-based research.*

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Professor William J
Jeffcoate MB MRCP

Professor William Jeffcoate's involvement with diabetic foot complications traces back to his exposure to the consequences during medical training in 1968, where a below-knee amputation left an indelible mark. However, it was not until he was appointed a general physician and endocrinologist in

1979 that his passion for addressing diabetes-related foot diseases truly ignited.

Throughout his career, Prof. Jeffcoate observed the global progression of specialized diabetic foot services. These services, characterized by interdisciplinary collaboration involving physicians, nurses, podiatrists, radiologists, microbiologists, orthopedic surgeons and vascular surgeons, were established to meet the growing demand for focused care in managing diabetic foot complications. This presentation chronicles the

evolution of these specialized services, elucidating collaborative initiatives implemented by health-care professionals to provide targeted care, which has proven pivotal in meeting the rising need for specialized care amid the challenges posed by diabetic foot complications.

Historically, diabetic foot disease in its early stages has received insufficient research attention, as emphasized by the scarcity of publications on PubMed related to diabetic foot ulcers. This underscores the pressing need to address this research gap due to the substantial health-care burden associated with diabetic foot complications. To bridge this gap, potential avenues for future investigations were discussed, encompassing exploration of the pure science behind diabetic foot ulcers at tissue, cellular and molecular levels, formulation of clinical management strategies, examination of population-based variations and advocacy for systematic documentation of clinical practices.

Professor Jeffcoate identifies four key areas for future research in diabetic foot ulcers,

providing a comprehensive framework ranging from understanding scientific underpinnings to implementing effective clinical strategies and exploring population-level variations.

Pure Science Exploration

- Investigate the mechanisms behind the formation and failure to heal diabetic foot ulcers at the tissue, cellular and molecular levels.
- Explore underlying biological processes to gain a deeper understanding of the disease pathology.

Clinical Management Strategies

- Develop and implement strategies for the clinical management of individuals with diabetic foot ulcers.
- Focus on prevention, active disease management, effective care and prevention of recurrence.

Population-Based Research

- Conduct research on the effectiveness of care, not just in individuals but in populations.
- Analyze variations in diabetic foot ulcers across racial, social and geographic populations to identify factors influencing outcomes.

Systematic Documentation Of Clinical Practices

- Emphasize the need to record detailed information as part of routine clinical practice.
- Stress the importance of systematically documenting approaches, interventions and outcomes to facilitate continuous improvement and knowledge dissemination.

A significant initiative in addressing the research gap is the National Diabetes Footcare Audit, which systematically collects data on foot care activities across England and Wales. This audit serves as a cornerstone in ongoing efforts, offering valuable insights into patient outcomes, waiting times and the effectiveness of various interventions, significantly contributing to advancing our understanding of diabetic foot care at both national and broader levels.

Evident challenges in team collaboration within diabetic foot care were highlighted. Professor Jeffcoate underscored the historical hesitance of health-care professionals, particularly doctors, to operate effectively as team players. Addressing these challenges is crucial for fostering

a collaborative health-care environment. The presentation specifically addresses these challenges, exploring Prof. Jeffcoate's observations on this observed historical reluctance to function collaboratively. It delves into potential solutions and emphasizes the importance of cultivating a collaborative health-care environment to effectively tackle the multifaceted challenges presented by diabetic foot complications.

Conclusion

In conclusion, Prof. Jeffcoate's comprehensive overview of the last 50 years in diabetic foot care stands as a profound reflection of the challenges and advancements within the field. This document encapsulates the essence of his presentation, emphasizing the multifaceted nature of the challenges posed by diabetic foot complications. His presentation underscores the need for heightened research efforts, the imperative for collaborative, team-based health-care practices and systematic documentation to propel diabetic foot care into a new era of understanding and innovation. It serves as a compelling call to action for health-care professionals, researchers and policy makers to collectively address the complexities associated with diabetic foot care and work towards enhanced patient outcomes on a global scale. ■

Professor William J Jeffcoate MB MRCP is a retired physician and endocrinologist. He was appointed as an endocrinologist in Nottingham, UK in 1979. He first established a specialist service for the care of the foot in diabetes in 1982. He has always felt strongly about the need for high quality evidence to underpin practice and has emphasized the need for systematic documentation of the outcomes of routine clinical care. He has been involved in the design and conduct of multiple randomized trials and has also been author/co-author of systematic reviews on infection, ulcer treatment, dressings and classification. He has served on the Editorial Board of *The Lancet*, *Diabetologia* and *The Lancet Diabetes and Endocrinology*.

Acknowledgement: Thank you to Rita Audi BHSc MMgt for summarizing Prof. Jeffcoate's video presentation.

Q&A Session

The following are highlights from the Q&A session following Prof. Jeffcoate's presentation.

Editor's note: Questions and responses have been edited for length and clarity.

Q: *At the beginning of your talk, you mentioned the importance of independent studies done by health-care professionals, that are not industry-driven. How do you address the challenges of industry-driven studies pushing for the consumption of expensive materials in diabetic foot care?*

Prof. Jeffcoate: It's a difficult issue, and we need more research on clinical factors. We need standardized measures and the International Working Group on Diabetic Foot is actively looking into grading the quality of data to distinguish helpful information from potentially biased data driven by industry interests.

The real obstacle is the lack of funds and a common 'bank account' for conducting large studies.

Q: *How can we overcome this barrier and conduct more substantial research?*

Prof. Jeffcoate: Coordination and collaboration are key. We need a joint effort from multicentric individuals and wound clinics to gather a high number of cases with reliable outcomes. This would require funding and support from organizations or institutions willing to invest in comprehensive research.

Q: *You emphasized the need for more research on clinical factors. How can we ensure the standardization of data collection and assess the quality of data in the field of diabetic foot care?*

Prof. Jeffcoate: The International Working Group on Diabetic Foot is actively involved in assessing and grading the quality of data. They meticulously examine every systematic review and it's crucial for practitioners to refer to such reports to differentiate between effective interventions and those primarily driven by industry interests.

Q: *Could you comment on the need for proper analysis of routine clinical work data to derive insights, especially in the field of prevention?*

Prof. Jeffcoate: Keeping data in databases and properly analyzing routine clinical work can indeed yield valuable results, particularly in the field of prevention. Analyzing data from preventative foot exams can provide new insights into effective strategies, making the most of the wealth of information that is already available in routine clinical practice.

Q: *Could you comment on the importance of identifying comorbidities in diabetic foot patients and the need for a holistic approach?*

Prof. Jeffcoate: We must acknowledge the importance of identifying comorbidities in diabetic foot patients, emphasizing the need for a holistic approach. This approach involves recognizing that patients with diabetic foot ulcers are not just individuals with lesions, but also individuals at high risk for various complications, and addressing their overall health is crucial.

Q: *How can we enhance communication and collaboration among medical professionals and improve the multidisciplinary approach to managing complex conditions like diabetic foot ulcers?*

Prof. Jeffcoate: Managing complex conditions requires close collaboration with various health-care professionals, including community staff and surgeons. The emphasis is on working together closely and recognizing that, as individual practitioners, it's often not possible to provide the comprehensive care that every patient needs. The key is to foster teamwork and cooperation.

Q: *What would be the priority policy focus to address the global issue of diabetic foot ulcers, especially from a government perspective?*

Prof. Jeffcoate: We must recognize the importance of systematic data collection as a priority in policy focus. I suggest strategies that incorporate simple yet comprehensive data collection methods, highlighting the need for outcomes beyond amputation rates. For instance, focusing on 12-week outcomes of being alive and ulcer-free could provide valuable insights into the effectiveness of interventions.

Q: *Considering the global efforts of organizations like the IDF and WHO, how do you see the future of addressing diabetic foot ulcers on a global scale?*

Prof. Jeffcoate: We should acknowledge the ongoing efforts of organizations like the IDF and WHO. The key lies in continued emphasis on the importance and cost-effectiveness of addressing diabetic foot ulcers. While it's a significant task, I believe that persistent efforts will eventually lead to increased awareness and action on a global scale.

This article and Q&As offer a summary of a presentation from the Global Meet of Diabetes Awareness Week symposium by D-Foot International held on Sunday, Nov. 12, 2023. A video of the full presentation is available at: https://www.youtube.com/watch?v=qXsvCIQvAes&t=3342s&ab_channel=D-FootInternational

A Word On D-Foot International

Dr. Zulfiqarali G Abbas

MBBS M Med DTM&H
(UK) FRCP (Glasgow)
FRCP (London)



D-Foot International is an organization comprised of individuals working in the field of diabetes-related complications, spanning regions such as Sub-Saharan Africa, South and Central America, the Middle East and North Africa, North America and the Caribbean, Europe, Southeast Asia and the Western Pacific. The collective mission is to provide preventive foot care for people with diabetes through awareness education and professional guidance.

The looming global diabetes epidemic is projected to rise, with the highest burden in low and middle-income countries. Diabetes research focuses on the incidence of complications, particularly foot-related issues, making it a central theme of action for D-Foot International.

The mission of D-Foot International is resolute: to prevent any avoidable limb amputations due to diabetes globally. This mandate calls for a collective effort, aiming for a 50% reduction in limb amputation rates by 2026. The organization's only weapons of choice are education and the involvement of health-care professionals.

As it strives toward its goal, education emerges as a powerful tool, especially in low and middle-income countries. D-Foot International takes pride in the success of the annual *Diabetes Awareness Week*, an integral part of its flagship program. Programs are scheduled across all regions during this week, culminating in a global event where all regions come together on one platform.

D-Foot International invites participants to envision a world where every health-care professional is equipped to offer specialized foot care, eliminating stigma and addressing the gap between affordable and accessible diabetes treatment. D-Foot International extends a hand of collaboration, urging everyone to work together to promote care for diabetes-related complications, making it financially feasible and increasing awareness.

Zulfiqarali G Abbas MBBS M Med DTM&H (UK)
FRCP (Glasgow) FRCP (London) is President of
D-Foot International

For more information on D-Foot International and its programs, visit: <http://www.youtube.com/@d-foot>



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