

# New IWGDF Guidelines on Prevention and Management of Diabetic Foot Disease released

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## Article points

1. The new IWGDF Guidelines on the prevention and management of diabetic foot disease were released in May 2019.
2. These guidelines follow rigorous and transparent methods, while aiming to provide clinically relevant recommendations
3. The IWGDF guidelines provide 87 recommendations for daily clinical practice, and we recommend all clinicians working with patients with diabetic foot disease to download and read these

## Key words

- International Working Group on the Diabetic Foot
- Management
- Prevention

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**Diabetic foot disease results in a major global burden for patients and the healthcare system. The International working Group on the Diabetic Foot (IWGDF) has been producing evidence-based guidelines on the prevention and management of diabetic foot disease since 1999. In 2019, all IWGDF guidelines were updated, based on systematic reviews of the literature and formulation of recommendations by multidisciplinary experts from all over the world. The aim of this article is to briefly describe the history, methodology, content and changes incorporated in the 2019 IWGDF guidelines, to support clinicians and researchers when reading and using them.**

In May 2019, the International Working Group on the Diabetic Foot (IWGDF) released the sixth update of their guidelines on the prevention and management of diabetic foot disease (*Figures 1&2*). The 2019 IWGDF guidelines consist of six guideline chapters (one each on prevention, classification, offloading, peripheral artery disease, infection and wound-healing interventions), 10 systematic reviews of the literature, a methodology and a definitions document, and the practical guidelines in which all information is combined and summarised for daily clinical practice. The aim of this article is to briefly describe the history, methodology, content and changes incorporated in the 2019 IWGDF guidelines, to support clinicians and researchers when reading and using them.

## Diabetic foot disease

Diabetic foot disease not only represents a personal tragedy for the affected patient, it also affects that person's family and places a substantial financial burden on healthcare systems and society in general. Its global burden still requires continuous effort to improve prevention and management of diabetic foot

disease. Investing in evidence-based, internationally appropriate guidelines on diabetic foot disease is likely among the most cost-effective forms of healthcare expenditure, provided it is outcome-focused and properly implemented. Pathophysiology and epidemiology of diabetic foot disease are described in the practical guidelines (Schaper et al, 2020), we will not add them in the current article as we assume the readers of *The Diabetic Foot Journal* are aware of these.

## History of the IWGDF

The IWGDF started with a meeting of multidisciplinary experts involved in the care of people with diabetic foot disease in Malvern, UK, in 1996, following an initiative of the Dutch internist Karel Bakker, together with Nicolaas Schaper. From this, the first practical guidelines were written, based on literature reviews and expert opinion (Apelqvist et al, 2000). These practical guidelines were presented at the International Symposium on the Diabetic Foot in 1999. This publication and its successors have been translated into >25 languages, and more than 100,000 copies have been distributed globally.

The IWGDF aims to prevent the adverse effects

of diabetic foot disease by developing and regularly updating the international guidelines for use by all healthcare providers, public health agencies and policymakers involved in caring for persons with diabetic foot disease. These guidelines can also be seen as worldwide, multidisciplinary standards of care that need to be adapted to local circumstances. Developing and updating guidelines is managed by the IWGDF guidelines working groups, consisting of multidisciplinary expert clinicians and scientists, while global IWGDF representatives serve as peer reviewers. Since publication of the first practical guidelines, IWGDF has updated and improved the guidelines every 4 years. For example, the first systematic reviews used to underpin the guidelines were published in 2007, and the GRADE methodology was adopted in 2015. Like its five predecessors, the 2019 IWGDF guidelines were presented at the International Symposium on the Diabetic Foot, a meeting held quadrennially in The Netherlands.

### Methodology of the IWGDF guidelines

The methodology of the 2019 IWGDF guidelines was managed by its editorial board, consisting of six members (the authors of this article). The editorial board appointed six working groups, each tasked with delivering one chapter. Each working group consisted of 8–13 international multidisciplinary experts in their topic, with a chair and a scientific secretary. The documents produced by the working groups were reviewed by a panel of 8–15 independent international external experts in the field to ensure global relevance. In total, more than 100 experts, from 40 countries and five continents, participated in the production of the IWGDF guidelines. Together, these experts provided approximately 10 years in full-time work — all as unpaid volunteers, equalling around 2mn euros of in-kind contributions. These activities would not be possible without the support from industry, who over the years has contributed around \$0.5mn in unrestricted grants.

The IWGDF guidelines use the renowned GRADE methodology to develop evidence-based guidelines (Guyatt et al, 2008; Alonso-Coello et al, 2016). Interested readers are referred to a detailed description of the IWGDF methodology (Bus et al, 2020). The basis of the GRADE methodology lies in the formulation of clinical questions in the PICO (Patient, Intervention, Comparison, Outcome)



Figure 1 (above). Professor Schaper, chair of the IWGDF editorial board, presents the 2019 IWGDF Guidelines.



Figure 2 (left). Professor Schaper (right) hands over the first copy of the 2019 IWGDF Guidelines to the presidents of the IDF (professor Boulton, centre) and D-Foot (professor Lazaro-Martinez, left).

format. Formulating clinical questions provides focus and structure to the setup of the evidence-based guidelines; this is intended to correspond to what a clinician or a patient would ask regarding the care provided in clinical practice to people with diabetic foot disease.

With the clinical question as starting point, the most relevant outcome measures were selected and ten systematic reviews of the literature were performed. For the six guidelines, a total 139,230 articles were screened, and 771 included for qualitative assessment (Lazzarini et al, 2020; Monteiro-Soares et al, 2020; Van Netten et al, 2020a; 2020b; Forsythe et al, 2020a; 2020b; Hinchliffe et al, 2020; Senneville et al, 2020; Peters et al, 2020; Vas et al, 2020). These systematic reviews contain evidence statements and assessments of the quality of the evidence. However, where other systematic reviews in our field can stop at these statements, the working groups responsible for both the systematic review and guideline must

then translate these findings into meaningful recommendations. This creates an important tension: writing conclusions about a trial at high risk of bias is one thing, but this changes when you have to use these in the construction of clear and relevant recommendations for daily clinical practice (Van Netten et al, 2020c). Rather than only seeing the statistical results, trials are also seen in the light of the potential dire consequences for patients when their conclusions (at high risk of bias) are wrong (Van Netten et al, 2020c).

That is what happens during the final, and most important, step in the guideline process: moving from evidence to recommendations (Guyatt et al, 2008; Alonso-Coello et al, 2016). The authors combined the overall quality of evidence as rated in the systematic review with different factors that are clinically relevant. These include such factors as the balance between desirable and undesirable effects (benefit and harms); patient values and preferences; feasibility, generalisability and acceptability of a diagnostic procedure or intervention; resource utilization (costs); and, expert opinion. The working group carefully weighed these factors to determine if the strength of the recommendation should be “strong” or “weak”. Finally, they wrote a rationale for each recommendation to explain the arguments as discussed within the working group on these different factors.

### Content of the 2019 IWGDF guidelines

The 2019 IWGDF guidelines consist of six guideline chapters (one each on prevention (Bus et al, 2020), classification (Monteiro-Soares et al, 2020), offloading (Bus et al, 2020), peripheral artery disease (Hinchliffe et al, 2020a), infection (Lipsky et al, 2020) and wound healing interventions (Rayman et al, 2020), 10 systematic reviews of the literature (Van Netten et al, 2020b; 2020c; Monteiro-Soares et al, 2020b; Lazzarini et al, 2020; Forsythe et al, 2020a; 2020b; Hinchliffe et al, 2020b; Senneville et al, 2020; Peters et al, 2020; Vas et al, 2020), a methodology (Bus et al, 2020) and a definitions document (Van Netten et al, 2020a), and the practical guidelines (Schaper et al, 2020). The prevention, classification, offloading, peripheral artery disease, infection and wound healing guidelines were updates from the 2015 IWGDF Guidelines, while the classification guideline was a new addition for 2019.

Together, these chapters provide 87 recommendations for daily clinical practice on the prevention and management of diabetic foot disease. Furthermore, these chapters contain the IWGDF ulcer risk stratification system, the IWGDF offloading algorithm, the IWGDF foot infection algorithm, the IWGDF/IDSA foot infection classification system, a recommendation to use the SINBAD system for communication among healthcare professionals and the Wound extent, degree of Ischemia and foot Infection (WIFI) system for decisions in the assessment of perfusion and the likelihood of benefit from revascularisation, and a set of definitions for diabetic foot disease. As no short description of the content can do the guidelines justice, the authors strongly recommend you to download and read them.

### Changes compared to the 2015 IWGDF guidelines

Apart from the addition of the new classification guideline, the most important changes in comparison to the 2015 IWGDF guidelines were the more rigorous approach to implementing the GRADE methodology and new systematic reviews of the literature (in addition to updating existing ones).

New recommendations were formulated on weight-bearing activity and foot- and mobility-related exercises to help prevent foot ulcers or reduce risk factors for ulceration, on offloading for infected or ischemic plantar foot ulcers, for heel ulcers, and for non-plantar foot ulcers, and on the use of specific dressing types for different types of foot ulcers. Together with sharpening various other recommendations, the 2019 IWGDF guidelines are the most complete and up-to-date document for clinicians treating people with diabetic foot disease, and we again encourage everyone who wants to provide the best possible care for these patients to download and read them.

### Future of the IWGDF guidelines

With the worldwide diabetes epidemic, it is now more imperative than ever that appropriate action be taken to ensure access to quality care for all people with diabetes, regardless of their age, geographic location, economic or social status. The IWGDF guidelines on the prevention and management of diabetic foot disease are the result of a unique process that over

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20 years has become increasingly founded on a strong evidence base, with procedures to guarantee consistency, transparency and independence. To stimulate implementation of the IWGDF guidelines, we facilitate translations to other languages, and adaptations to local situations. Currently, translations are being written in >10 languages (including the German, French, Spanish and Chinese), and further local adaptations are written in these and other countries. All translations will be made freely available on <https://iwgdfguidelines.org/translations>. If you are interested in translating or adopting the IWGDF Guidelines, please contact us via <https://iwgdfguidelines.org/contact>.

The IWGDF editorial board aims to continue improving their guidelines, and present a new update at the International Symposium on the Diabetic Foot in 2023. Meanwhile, the board hope to see an increase in global awareness of diabetic foot disease, and believe that implementation of the 2019 IWGDF guidelines' recommendations will result in improved prevention and management of foot problems in diabetes and a subsequent worldwide reduction in the patient, economic and societal burden caused by diabetic foot disease. ■

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### Conflict of interest statement

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before publication. All individual conflict of interest statement of authors of this guideline can be found at: <https://iwgdfguidelines.org/about-iwgdf-guidelines/biographies/>

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