IWGDF Guideline on interventions to enhance healing of foot ulcers in persons with diabetes







## **AUTHORS**

Gerry Rayman<sup>1</sup>, Prashant Vas<sup>2</sup>, Ketan Dhatariya<sup>3</sup>, Vicki Driver<sup>4</sup>, Agnes Hartemann<sup>5</sup>, Magnus Londahl<sup>6</sup>, Alberto Piaggesi<sup>7</sup>, Jan Apelqvist<sup>8</sup>, Chris Attinger<sup>9</sup>, Fran Game<sup>10</sup> on behalf of the International Working Group on the Diabetic Foot (IWGDF)

## INSTITUTIONS

<sup>a</sup> Diabetes Centre and Research Unit, East Suffolk and North East Essex Foundation Trust, UK

<sup>2</sup> Diabetes Foot Clinic, King's College Hospital, London, UK

<sup>3</sup>Department of Diabetes, Norfolk and Norwich University Hospitals NHS Foundation Trust, and University of East Anglia, Norwich, UK

<sup>4</sup>Brown University School of Medicine, Providence, Rhode Island, USA

<sup>5</sup> Pitié-Salpêtrière Hospital, APHP, Paris 6 University, ICAN, Paris, France

<sup>6</sup>Skane University Hospital, Lund, and Department of Clinical Sciences, Lund, Lund University, Sweden

<sup>7</sup>Diabetic Foot Section, Department of Medicine, University of Pisa, Italy

<sup>8</sup>Department of Endocrinology, University Hospital of Malmö, Sweden

<sup>9</sup> Department of Plastic Surgery, Medstar Georgetown University, Hospital, Washington D.C., USA

<sup>10</sup> Department of Diabetes and Endocrinology, University Hospitals of Derby and Burton NHS Foundation Trust, Derby, UK

**KEYWORDS** diabetic foot; foot ulcer; guidelines; wound healing; dressing



www.iwgdfguidelines.org



## LIST OF RECOMMENDATIONS

- Remove slough, necrotic tissue and surrounding callus of a diabetic foot ulcer with sharp debridement in preference to other methods, taking relative contraindications such as pain or severe ischemia into account. (GRADE Strength of recommendation: Strong; Quality of evidence: Low)
- 2. Select dressings principally on the basis of exudate control, comfort and cost. (Strong; Low)
- 3. Do not use dressings/applications containing surface antimicrobial agents with the sole aim of accelerating the healing of an ulcer. (Strong; Low)
- 4. Consider the use of the sucrose-octasulfate impregnated dressing in non-infected, neuro-ischaemic diabetic foot ulcers that are difficult to heal despite best standard of care. (Weak; Moderate)
- 5. Consider the use of systemic hyperbaric oxygen therapy as an adjunctive treatment in non-healing ischaemic diabetic foot ulcers despite best standard of care. (Weak; Moderate)
- 6. We suggest not using topical oxygen therapy as a primary or adjunctive intervention in diabetic foot ulcers including those that are difficult to heal. (Weak; Low)
- Consider the use of negative pressure wound therapy to reduce wound size, in addition to best standard of care, in patients with diabetes and a post-operative (surgical) wound on the foot. (Weak; Low)
- 8. As negative pressure wound therapy has not been shown to be superior to heal a non-surgical diabetic foot ulcer, we suggest not using this in preference to best standard of care. (Weak; Low)
- 9. Consider the use of placental derived products as an adjunctive treatment, in addition to best standard of care, when the latter alone has failed to reduce the size of the wound. (Weak; Low)
- 10. We suggest not using the following agents reported to improve wound healing by altering the wound biology: growth factors, autologous platelet gels, bioengineered skin products, ozone, topical carbon dioxide and nitric oxide, in preference to best standard of care. (Weak; Low)
- Consider the use of autologous combined leucocyte, platelet and fibrin as an adjunctive treatment, in addition to best standard of care, in non-infected diabetic foot ulcers that are difficult to heal. (Weak, Moderate)
- 12. Do not use agents reported to have an effect on wound healing through alteration of the physical environment including through the use of electricity, magnetism, ultrasound and shockwaves, in preference to best standard of care. (Strong; Low)
- 13. Do not use interventions aimed at correcting the nutritional status (including supplementation of protein, vitamins and trace elements, pharmacotherapy with agents promoting angiogenesis) of patients with a diabetic foot ulcer, with the aim of improving healing, in preference to best standard of care. (Strong; Low)

