

# **IQED-FOOT INFORMATION MEETING AUDIT 8**

**Barriers and workarounds**

17 June 2025, Brussels

# INTRO

Margot Buyle PhD and Dr Michel Vandembroucke

# Welcome

18h00 | Registration and walking dinner

19h30 – 22h15

Three sessions are organised, each with a presentation and a discussion. Each session will last a maximum of 45 minutes, and will be presented by members of the IQED-Foot Expert Group.

- Session 1: *Prof. Dr. Caren Randon (UZ Ghent), Dr. Sabrina Houthoofd (UZ Leuven), Prof. Dr. Dimitri Aerden (UZ Brussels)* : **'Decision making in the PEDIS-3 foot population'**
- Session 2: *Prof. Dr. Frank Nobels (AZORG Aalst), Dr. Patrick Lauwers (UZ Antwerp), Prof. Dr. Giovanni Matricali (UZ Leuven)* : **'The practice of offloading: the good, the bad and the ugly'**
- Session 3: *Cédric Lannoo (UZ Ghent), Sabine De Bruyne (AZ Sint-Lucas Ghent), Prof. Dr. Eveline Dirinck (UZ Antwerp)* : **'The podiatrist in the diabetic foot clinic : role, challenges and future'**

22h30 | End

Accreditation 'Ethics and economics' is available.  
All presentations will be given in English.

# Diabetic Foot: a hot topic in the literature

- Pubmed : 'Diabetic Foot' revealed 971 results published in the last 12 months
- 25 meta-analyses, mostly about treatment options
- 177 review articles
- Variety of topics : AI and digital tools, societal burden, diagnostic tools, treatment options, outcome studies ...
- Largest and prestigious journals (Lancet, JAMA, Diabetes Care, BMJ, ...)
- Life long eminent scientists continue publishing
- JAMA 2023 Jul 3;330(1):62-75. **Diabetic Foot Ulcers: A Review**

David G Armstrong<sup>1</sup>, Tze-Woei Tan<sup>1</sup>, Andrew J M Boulton<sup>2</sup>, Sicco A Bus<sup>3</sup>

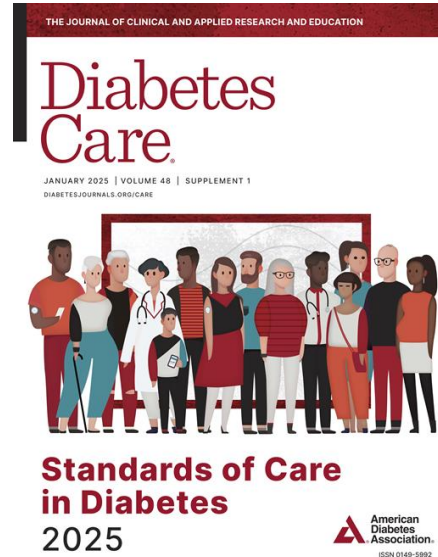

**Conclusions and relevance:** Diabetic foot ulcers affect approximately 18.6 million people worldwide each year and are associated with increased rates of amputation and death. Surgical debridement, reducing pressure from weight bearing, treating lower extremity ischemia and foot infection, and early referral for multidisciplinary care are first-line therapies for diabetic foot ulcers.

# Diabetic Foot: Conferences and Guidelines

2023

## IWGDF Guidelines on the prevention and management of diabetes-related foot disease

Practical Guidelines | 7 Guidelines | Development and methodology



## Retinopathy, Neuropathy, and Foot Care: Standards of Care in Diabetes—2025

American Diabetes Association  
Professional Practice Committee

Diabetes Care  
2025;48(Supplement\_1):S252–S265

## 9th International Symposium on the Diabetic Foot

10 - 13 May 2023 | World Forum  
The Hague - The Netherlands



# Retinopathy, Neuropathy, and Foot Care: Standards of Care in Diabetes – 2025 – page S258-259

## Recommendations

**12.23** Perform a comprehensive foot evaluation at least annually to identify risk factors for ulcers and amputations. **A**

**12.24** The examination should include inspection of the skin, assessment of foot deformities, neurological assessment (10-g monofilament testing or Ipswich touch test with at least one additional assessment: pinprick, temperature, or vibration), and vascular assessment, including pulses in the legs and feet. **B**

**12.25** Individuals with evidence of sensory loss or prior ulceration or amputation should have their feet inspected at every visit. **A**

**12.26** Obtain a prior history of ulceration, amputation, Charcot foot, angioplasty or vascular surgery, cigarette

smoking, retinopathy, and renal disease and assess current symptoms of neuropathy (pain, burning, numbness) and vascular disease (leg fatigue, claudication). **B**

**12.27** Initial screening for peripheral arterial disease (PAD) should include assessment of lower-extremity pulses, capillary refill time, rubor on dependency, pallor on elevation, and venous filling time. Individuals with a history of leg fatigue, claudication, and rest pain relieved with dependency or decreased or absent pedal pulses should be referred for ankle-brachial index with toe pressures and for further vascular assessment as appropriate. **B**

**12.28** An interprofessional approach facilitated by a podiatrist in conjunction with other appropriate team members is recommended for individuals with foot ulcers and high-risk feet (e.g., those on dialysis, those with Charcot foot, those with a history of prior ulcers or amputation, and those with PAD). **B**

**12.29** Refer individuals who smoke and have a history of prior lower-extremity complications, loss of protective sensation, structural abnormalities, or PAD to foot care specialists for ongoing preventive care and lifelong surveillance. **B** These individuals should also be provided with information on the importance of smoke cessation and referred for counseling on smoke cessation. **A**

**12.30** Provide general preventive foot self-care education to all people with diabetes, including those with loss of protective sensation, on appropriate ways to examine their feet (palpation or visual inspection with an unbreakable mirror) for daily surveillance of early foot problems. **B**

**12.31** The use of specialized therapeutic footwear is recommended for people with diabetes at high risk for ulceration, including those with loss of protective sensation, foot deformities, ulcers, callous formation, poor peripheral circulation, or history of amputation. **B**

**12.32** For chronic diabetic foot ulcers that have failed to heal with optimal standard care alone, adjunctive treatment with randomized controlled trial-proven advanced agents should be considered. Considerations might include negative-pressure wound therapy, placental membranes, bioengineered skin substitutes, several acellular matrices, autologous fibrin and leukocyte platelet patches, and topical oxygen therapy. **A**

# Retinopathy, Neuropathy, and Foot Care: Standards of Care in Diabetes – 2025 – page S258-259

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**12.29** Refer individuals who smoke and have a history of prior lower-extremity complications, loss of protective sensation, structural abnormalities, or PAD to foot care specialists for ongoing preventive care and lifelong surveillance. **B** These individuals should also be provided with information on the importance of smoke cessation and referred for counseling on smoke cessation. **A**

For recalcitrant deformities or for recurrent ulcerations not amenable to conservative footwear therapy alone, appropriate surgical reconstruction by an experienced diabetic foot surgeon should be considered.

References: Frykberg, Wukich et al, Board of the association of diabetic foot surgeons, surgery for the diabetic foot: a key component of care. Diabetes Metab Res Rev 2020;36 (suppl 1): e3251

# Barrier Survey – Results (1/3)

## Identification of the most common barriers in diabetic foot clinics in Belgium

### OFFLOADING

|                                    | Reasons higher rates  | Reasons lower rates   |
|------------------------------------|---|---|
| <b>Healthcare provider factors</b> | <ul style="list-style-type: none"> <li>• Strong offloading policy</li> <li>• Patient education</li> <li>• Expertise</li> </ul>      | <ul style="list-style-type: none"> <li>• Prevention policy</li> <li>• Limited trained personnel</li> <li>• Encoding problems</li> </ul> |
| <b>Patient factors</b>             | <ul style="list-style-type: none"> <li>• Compliance</li> <li>• Awareness</li> </ul>   | <ul style="list-style-type: none"> <li>• Refusal</li> <li>• Patient characteristics</li> </ul>  |
| <b>Healthcare system factors</b>   | <ul style="list-style-type: none"> <li>• Intensive multidisciplinary collaboration</li> <li>• Easier access to resources</li> </ul> | <ul style="list-style-type: none"> <li>• Low collaboration</li> <li>• Reimbursement policy</li> </ul>                                   |

*Examples from practice*

*Optimal pursuit of offloading  
Expertise in offloading*

*Prevention policy leading to less severe wounds*

# Barrier Survey – Results (2/3)

## Identification of the most common barriers in diabetic foot clinics in Belgium

### REVASCULARISATION

|                                    | Reasons higher rates  | Reasons lower rates  |
|------------------------------------|---|--|
| <b>Healthcare provider factors</b> | <ul style="list-style-type: none"> <li>• Strong revascularisation policy</li> <li>• Expertise</li> </ul>                    | <ul style="list-style-type: none"> <li>• Conservative approach</li> <li>• Limited trained personnel</li> <li>• Stricter wound selection</li> </ul> |
| <b>Patient factors</b>             | <ul style="list-style-type: none"> <li>• Treating patients with critical limb ischemia</li> </ul>                           | <ul style="list-style-type: none"> <li>• Patient characteristics</li> <li>• Favorable wound evolution</li> </ul>                                   |
| <b>Healthcare system factors</b>   | <ul style="list-style-type: none"> <li>• Intensive multidisciplinary collaboration</li> <li>• Adequate resources</li> </ul> | <ul style="list-style-type: none"> <li>• Low collaboration</li> </ul>  |

*Examples from practice*

*Advise and experience from vascular surgeons*

*Shortage of vascular surgeons or radiologists*

*Explain to patients importance*

*Non-surgical policy*

*Close cooperation vascular surgery*

*Fragile, severely ill patients*

# Barrier Survey – Results (3/3)

## Identification of the most common barriers in diabetic foot clinics in Belgium

### SECONDARY PREVENTION

|                                    | Reasons higher rates  | Reasons lower rates  |
|------------------------------------|---|--|
| <b>Healthcare provider factors</b> | <ul style="list-style-type: none"> <li>• Strong secondary prevention policy</li> <li>• Patient education</li> </ul> | <ul style="list-style-type: none"> <li>• Prevention policy</li> <li>• Limited trained personnel</li> </ul>                           |
| <b>Patient factors</b>             |   | <ul style="list-style-type: none"> <li>• Refusal</li> <li>• Patient characteristics</li> </ul>                                       |
| <b>Healthcare system factors</b>   | <ul style="list-style-type: none"> <li>• Intensive multidisciplinary collaboration</li> </ul>                       | <ul style="list-style-type: none"> <li>• Low collaboration</li> <li>• Reimbursement policy</li> <li>• Prescription policy</li> </ul> |

*Examples from practice*

*Provision of orthopaedic insoles/shoes*

*Diabetologists cannot prescribe orthopaedic insoles/shoes*

*Orthopaedic shoes always advised*

*Reimbursement policy*

*Presence orthopaedic experts*

*Bedridden, palliative patients*

# Barrier Survey – Conclusions

Identification of the most common barriers in diabetic foot clinics in Belgium

Reasons General Higher Rates



Reasons General Lower Rates



→ Next steps?

# Session 1. Decision making in the PEDIS-3 foot population

In this session we examine trend changes in the role of (non)-invasive testing for PAD and arterial imaging. We explore revascularisation rates, modalities (endovascular and open) as well as BTK targeting, with a particular interest in the PEDIS-3 population. We offer a hypothesis for the excessive variability among centers in regard to BTK revascularisation.

Organized by: Prof. Dr. Caren Randon (vascular surgeon, UZ Ghent), Dr. Sabrina Houthoofd (vascular surgeon, UZ Leuven), Prof. Dr. Dimitri Aerden (vascular surgeon, UZ Brussels)

## Session 2. The practice of offloading: the good, the bad and the ugly

This session will discuss the practical aspects of offloading, based on case studies addressing the discrepancies between guidelines and real-world practices.

Organized by: Prof. Dr. Frank Nobels (diabetologist, AZORG Aalst), Dr. Patrick Lauwers (vascular surgeon, UZ Antwerp), Prof. Dr. Giovanni Matricali (orthopaedic surgeon, UZ Leuven)

## Session 3. The podiatrist in the diabetic foot clinic: role, challenges and futures

During this session, several questions will be addressed regarding podiatric care: How is the podiatrist's role fulfilled within diabetic foot clinics? Why is it, that some centres manage to fully deploy the podiatrist in care? What barriers stand in the way of wider deployment? Together, we explore difficulties and opportunities.

Organized by: Cédric Lannoo (podiatrist, UZ Ghent), Sabine De Bruyne (podiatrist, AZ Sint-Lucas Ghent), Prof. Dr. Eveline Dirinck (diabetologist, UZ Antwerp)

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**Please select 1 option.**

**When is IQED-Foot registration MOST OFTEN performed in your MDFC?**

**\*MDFC = Multidisciplinary Diabetic Foot Clinic**

**i** Start presenting to display the poll results on this slide.

**slido**

Please download and install the Slido app on all computers you use



**Please select all that apply.**

**Who performs IQED-Foot registration in your MDFC?**

① Start presenting to display the poll results on this slide.

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**Please select 1 option.**

**How is INITIAL IQED-Foot registration performed in your MDFC?**

① Start presenting to display the poll results on this slide.

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**Please select all that apply.**

**Which member(s) of your MDFC contribute actively and consistently to the report on the patients visit in his/her medical record?**

① Start presenting to display the poll results on this slide.



**Please select all that apply.**

**How often is a full report of the patient's visits at the MDFC created in the medical record (and sent to external parties such as the GP)?**

# DECISION MAKING IN THE PEDIS-3 FOOT POPULATION

Prof Dr Caren Randon (vascular surgeon, UZ Ghent), Dr Sabrina Houthoofd (vascular surgeon, UZ Leuven), Prof Dr Dimitri Aerden (vascular surgeon, UZ Brussels)

# Diagnosis PAD & CLI in DF

| Clinical   | Testing   | Imaging (diagnosis + revasc. prep) |
|--|---|------------------------------------|
| Peripheral pulsations (tibial arteries)<br>IQED-foot AUDIT 8   | Doppler waveform (no signal, monophasic)<br>IQED-foot AUDIT 6-8 | CT-angio                           |
| Wound characteristics (distal, multiple, (mummified) necrosis, no bleeding during debridement, <>venous/neuropathic) | ABI (unreliable, falsely elevated)<br>IQED-foot                 | MR-angio (availability)            |
| Dynamic Testing (Buerger-test/Capillary Refill)  | TBI (availability, narrow range)<br>IQED-foot                   | Other (DSA)                        |
| Antecedents: coronary, carotid, 'known' atherosclerosis  | TcpO2 (diagnostic <> stump healing?)<br>IQED-foot               | US (BTK?)<br>IQED-foot             |
| Indirect: X-ray foot shows mediacalcinosis, ATCD   |   |                                    |

IQED-foot = "angiography"

IQED-Foot: PAD assessment process: only partially registered

# Non-invasive testing (1/2)

new to Audit 8: peripheral pulses

introduced to Audit 6: doppler

objective = diagnosis of clinical PAD/CLI + indication for imaging / revascularisation

## 3.4.4.5.3. Resultaten

Tabel 25: Gebruik van niet-invasieve diagnostische tests bij patiënten met een diabetisch voetulcus, audit 3-8, algemene percentages

|  | Audit 3<br>(N=1.583) | Audit 4<br>(N=1.747)              | Audit 5<br>(N=1.857)            | Audit 6<br>(N=1.771)              | Audit 7<br>(N=1.579)              | Audit 8<br>(N=1.977)            | Trend  |
|--|----------------------|-----------------------------------|---------------------------------|-----------------------------------|-----------------------------------|---------------------------------|--|
| Klinisch onderzoek naar voetpulsaties          |                      |                                   |                                 |                                   |                                   | 1.671<br>(83,9)                 | → good   |
| Meting van enkel-armindex (ABI)                | 349<br>(21,6)        | 259<br>(14,6) <sup>cccggg</sup>   | 347<br>(17,1) <sup>cc</sup>     | 225<br>(12,4) <sup>ccceee</sup>   | 173<br>(10,3) <sup>ccceee</sup>   | 257<br>(12,9) <sup>cccee</sup>  | ---  |
| Teendruk                                       | 11<br>(0,7)          | 36<br>(2,1)                       | 31<br>(1,5)                     | 41<br>(2,3) <sup>c</sup>          | 26<br>(1,4)                       | 46<br>(2,6)                     | } infrequent<br>(reliability issue?<br>accessibility?) |
| TcPO <sub>2</sub> -meting                      | 47<br>(2,9)          | 55<br>(2,9)                       | 79<br>(3,3)                     | 64<br>(3,6)                       | 34<br>(2,0)                       | 72<br>(3,4)                     |  |
| <b>Minstens één van deze 3 metingen</b>        | 373<br>(23,1)        | 291<br>(16,5) <sup>cccggg</sup>   | 379<br>(18,8) <sup>c</sup>      | 267<br>(14,8) <sup>ccce</sup>     | 189<br>(11,2) <sup>ccceee</sup>   | 292<br>(14,6) <sup>cccddd</sup> |  |
| Arterieel Doppleronderzoek                     | -                    | -                                 | -                               | 456<br>(26,4)                     | 508<br>(30,9)                     | 581<br>(29,2)                   |  |
| <b>Geen niet-invasieve diagnostische tests</b> | 1.210<br>(76,9)      | 1.456<br>(83,5) <sup>cccggg</sup> | 1.479<br>(81,2) <sup>cfff</sup> | 1.176<br>(66,2) <sup>cccddd</sup> | 1.008<br>(65,5) <sup>ccceee</sup> | 240<br>(12,7) <sup>cccddd</sup> | → encouraging  |

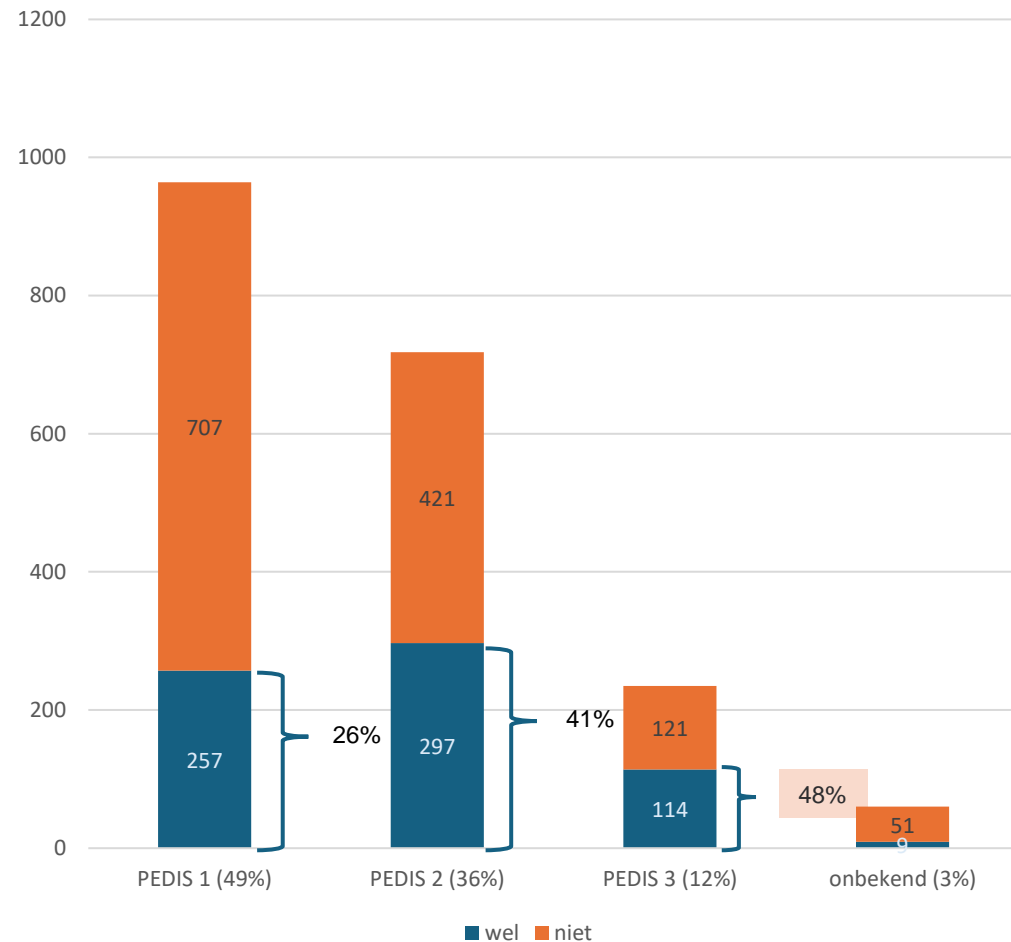
Raadpleeg paragraaf 3.1.1 op p. 17 voor instructies over hoe deze tabel te lezen.

# Non-invasive testing (2/2)

“No vascular work up” = quality failure?

- prior or established healing (wait & see)
- revasc. no option or patient refusal
- known or obvious PAD: direct to imaging
- patient inclusion, delayed vascular workup

Non-invasive PAD testing AUDIT 8, according to PEDIS classification



# Imaging

Tabel 27: Gebruik van vasculaire beeldvorming bij patiënten met een diabetisch voetulcus, audits 3-8

|   | Audit 3<br>(N=1.583)          | Audit 4<br>(N=1.747)            | Audit 5<br>(N=1.857)          | Audit 6<br>(N=1.771)        | Audit 7<br>(N=1.579)            | Audit 8<br>(N=1.977)          | Trend |
|---|-------------------------------|---------------------------------|-------------------------------|-----------------------------|---------------------------------|-------------------------------|-------|
| <b>Algemene percentages</b>                 |                               |                                 |                               |                             |                                 |                               |       |
| Arterieel duplexonderzoek                   | 602<br>(37,5)                 | 926<br>(53,4) <sup>cc</sup>     | 1.022<br>(55,0) <sup>cc</sup> | 701<br>(38,7) <sup>e</sup>  | 519<br>(31,8) <sup>ddeee</sup>  | 741<br>(37,9) <sup>dee</sup>  |       |
| Angiografie                                 | 531<br>(33,5)                 | 559<br>(32,3)                   | 619<br>(33,5)                 | 590<br>(33,2)               | 552<br>(33,4)                   | 691<br>(36,0)                 |       |
| <b>Rekening houdend met combinaties</b>     |                               |                                 |                               |                             |                                 |                               |       |
| Alleen arterieel duplexonderzoek            | 376<br>(23,2) <sup>d</sup>    | 600<br>(34,3)                   | 573<br>(30,8) <sup>f</sup>    | 351<br>(19,3) <sup>dd</sup> | 254<br>(15,5) <sup>dddeee</sup> | 381<br>(19,3) <sup>ddee</sup> | --    |
| Alleen angiografie                          | 305<br>(19,1) <sup>e</sup>    | 233<br>(13,3) <sup>e</sup>      | 170<br>(9,2)                  | 240<br>(13,8) <sup>e</sup>  | 287<br>(17,2) <sup>ee</sup>     | 331<br>(17,4) <sup>e</sup>    |       |
| Arterieel duplexonderzoek + angiografie     | 226<br>(14,3) <sup>ddee</sup> | 326<br>(19,1) <sup>e</sup>      | 449<br>(24,2)                 | 350<br>(19,4)               | 265<br>(16,2) <sup>e</sup>      | 360<br>(18,6)                 |       |
| <b>Eender welke vasculaire beeldvorming</b> | 907<br>(56,7)                 | 1.159<br>(66,7) <sup>ccff</sup> | 1.192<br>(64,2) <sup>f</sup>  | 941<br>(52,5)               | 806<br>(48,9) <sup>ddee</sup>   | 1.072<br>(55,3) <sup>fe</sup> | -     |
| <b>Geen vasculaire beeldvorming</b>         | 676<br>(43,3)                 | 588<br>(33,3) <sup>ccff</sup>   | 665<br>(35,8) <sup>fgg</sup>  | 830<br>(47,5)               | 773<br>(51,1) <sup>dd</sup>     | 905<br>(44,7) <sup>de</sup>   | +     |

Raadpleeg paragraaf 3.1.1 op p. 17 voor instructies over hoe deze tabel te lezen.

→ acceptable: no suspicion of clinical PAD (neuropathy, venous, dermato, nail)

# Revascularisation 1/2

Tabel 29: Revascularisatiepercentages bij patiënten met een diabetisch voetulcus, algemeen en gestratificeerd volgens PEDIS-perfusiegraad en voorgeschiedenis, in audits 2-8

|  | Audit 2<br>(N=985)                  | Audit 3<br>(N=1.583)                | Audit 4<br>(N=1.747)                | Audit 5<br>(N=1.857)                | Audit 6<br>(N=1.771)                | Audit 7<br>(N=1.579)                | Audit 8<br>(N=1.977)                | Trend |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------|
| <b>Algemeen percentage</b>                   | 248<br>(25,0)                       | 401<br>(25,6)                       | 457<br>(26,5)                       | 454<br>(24,5)                       | 419<br>(23,6)                       | 438<br>(26,1)                       | 496<br>(25,5)                       |       |
| <b>PEDIS-perfusiegraad</b>                   |                                     |                                     |                                     |                                     |                                     |                                     |                                     |       |
| PEDIS-perfusiegraad 1                        | 12/375<br>(3,2)                     | 27/662<br>(4,2)                     | 37/756<br>(5,1)                     | 44/850<br>(5,3)                     | 27/764<br>(3,6)                     | 42/700<br>(6,8)                     | 62/964<br>(6,5) <sup>bf</sup>       | ++    |
| PEDIS-perfusiegraad 2                        | 133/437<br>(30,0) <sup>***</sup>    | 219/685<br>(32,4) <sup>***</sup>    | 263/737<br>(35,8) <sup>***</sup>    | 260/755<br>(34,8) <sup>***</sup>    | 225/683<br>(32,7) <sup>***</sup>    | 248/646<br>(36,7) <sup>***</sup>    | 256/718<br>(36,0) <sup>***</sup>    |       |
| PEDIS-perfusiegraad 3                        | 99/150<br>(66,4) <sup>***</sup>     | 148/207<br>(71,6) <sup>***</sup>    | 147/219<br>(67,8) <sup>***</sup>    | 141/221<br>(63,9) <sup>***</sup>    | 164/240<br>(68,2) <sup>***</sup>    | 143/203<br>(67,0) <sup>***</sup>    | 163/235<br>(69,7) <sup>***</sup>    |       |
| PEDIS-perfusiegraad<br>onbekend              | 4/23<br>(17,1)                      | 7/29<br>(24,8)                      | 10/35<br>(27,9)                     | 9/31<br>(29,2)                      | 3/84<br>(3,5)                       | 5/30<br>(12,8)                      | 15/60<br>(24,9)                     |       |
| <b>Voorgeschiedenis van revascularisatie</b> |                                     |                                     |                                     |                                     |                                     |                                     |                                     |       |
| Nee  | 125/653<br>(18,9)                   | 200/1.086<br>(18,3)                 | 181/1.208<br>(15,1)                 | 181/1.184<br>(15,4)                 | 154/1.121<br>(13,9)                 | 168/1.008<br>(15,6)                 | 192/1.282<br>(15,2)                 |       |
| Ja   | 123/285<br>(43,1) <sup>\$\$\$</sup> | 201/483<br>(42,5) <sup>\$\$\$</sup> | 276/526<br>(53,0) <sup>\$\$\$</sup> | 273/613<br>(44,6) <sup>\$\$\$</sup> | 265/575<br>(45,7) <sup>\$\$\$</sup> | 270/510<br>(51,8) <sup>\$\$\$</sup> | 304/639<br>(48,3) <sup>\$\$\$</sup> |       |
| <b>Geen revascularisatie</b>                 | 737<br>(75,0)                       | 1.182<br>(74,4)                     | 1.290<br>(73,5)                     | 1.403<br>(75,5)                     | 1.352<br>(76,4)                     | 1.141<br>(73,9)                     | 1.481<br>(74,5)                     |       |

Raadpleeg paragraaf 3.1.1 op p. 17 voor instructies over hoe deze tabel te lezen.

\*,\*\*,\*\*\* p < 0,05, p < 0,01, p < 0,001 vs. PEDIS-perfusiegraad 1.

,\$\$,\$\$\$ p < 0,05, p < 0,01, p < 0,001 vs. geen voorgeschiedenis van revascularisatie.

¼ pt (= new chronic wound) gets revascularisation  
±90% endovascular (<>hybrid/open)  
±50% BTK targeted

| <b>PERFUSION (PERFUSIE)</b>                             |   |
|---|---|
| Graad 1   | geen symptomen of tekenen van perifeer arterieel vaatlijden (PAV)   |
| Graad 2   | symptomen of tekenen van PAV, maar niet van kritische lidmaatschemie  |
| Graad 3   | kritische lidmaatschemie  |
| <b>EXTENT (OMVANG)</b>                                  |   |
| wondgrootte gemeten in cm <sup>2</sup> , na debridement |   |
| <b>DEPTH (DIEPTE)</b>                                   |   |
| Graad 1   | oppervlakkig ulcus beperkt tot de dermis.   |
| Graad 2   | diepe ulcus, dat penetreert door de dermis tot de subcutane structuren zoals fascia, spier of pees                                      |
| Graad 3   | alle onderliggende lagen van de voet zijn betrokken, inclusief bot en/of gewricht (blootliggend bot, ulcus doordringend tot op het bot) |
| <b>INFECTION (INFECTIE)</b>                             |   |
| Graad 1   | geen symptomen of tekenen van infectie  |
| Graad 2   | infectie van de huid en het subcutane weefsel   |
| Graad 3   | erytheem groter dan 2 cm of infectie dieper dan huid of subcutis doch zonder systemische inflammatoire symptomen                        |
| Graad 4   | systemische symptomen van infectie  |
| <b>SENSATION (GEOVEL)</b>                               |   |
| Graad 1   | geen verlies van beschermend gevoel   |
| Graad 2   | verlies van beschermend gevoel  |

Tabel 4.3 : De pijlers van de PEDIS-classificatie

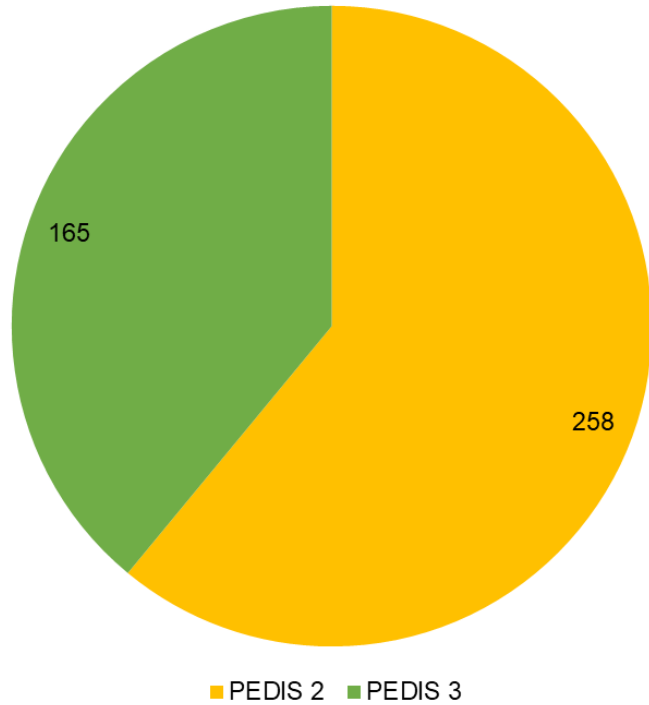
Tabel 30: Revascularisatietype bij patiënten met een diabetisch voetulcus, audits 3-8

|                                     | Audit 3<br>(N=401) | Audit 4<br>(N=457) | Audit 5<br>(N=454) | Audit 6<br>(N=419) | Audit 7<br>(N=438)         | Audit 8<br>(N=1.977)       | Trend |
|-------------------------------------|--------------------|--------------------|--------------------|--------------------|----------------------------|----------------------------|-------|
| <b>Revascularisatietype, bekend</b> | 350<br>(86,8)      | 376<br>(81,7)      | 454<br>(100,0)     | 419<br>(100,0)     | 438<br>(100,0)             | 496<br>(100,0)             | +++   |
| Endovasculair                       | 311<br>(89,1)      | 335<br>(89,0)      | 402<br>(89,0)      | 359<br>(85,6)      | 401<br>(91,7) <sup>f</sup> | 457<br>(92,4) <sup>f</sup> |       |
| Chirurgisch                         | 53<br>(14,8)       | 60<br>(15,9)       | 94<br>(20,2)       | 85<br>(20,4)       | 66<br>(15,7)               | 78<br>(15,3)               |       |

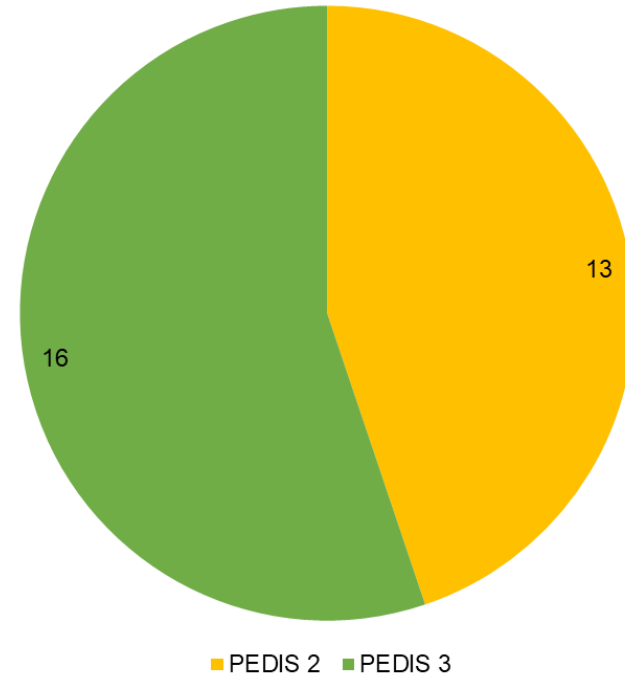
Raadpleeg paragraaf 3.1.1 op p. 17 voor instructies over hoe deze tabel te lezen.

# Revascularized

PEDIS-2 vs PEDIS-3 patients that were revascularized (n=423) in 37 MDFC



Major amputation in PEDIS-2 vs PEDIS-3 patients that were revascularized (n=29) in 37 MDFC



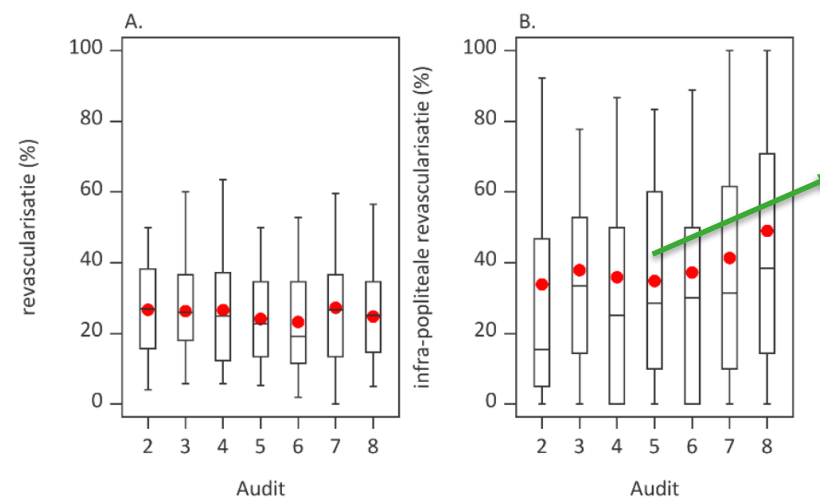
# Revascularisation 2/2

Tabel 31: Revascularisatieniveau bij patiënten met een diabetisch voetulcus, audits 2-8

|  | Audit 2<br>(N=248) | Audit 3<br>(N=401) | Audit 4<br>(N=457) | Audit 5<br>(N=454)        | Audit 6<br>(N=419) | Audit 7<br>(N=438) | Audit 8<br>(N=1.977)       | Trend |
|--|--------------------|--------------------|--------------------|---------------------------|--------------------|--------------------|----------------------------|-------|
| <b>Revascularisatieniveau, bekend</b>              | 200<br>(80,2)      | 342<br>(84,6)      | 383<br>(84,3)      | 377<br>(83,1)             | 366<br>(87,5)      | 392<br>(89,2)      | 468<br>(94,4) <sup>f</sup> |       |
| <b>Algemene percentages</b>                        |                    |                    |                    |                           |                    |                    |                            |       |
| Aortoiliacaal                                      | 10<br>(4,9)        | 27<br>(7,9)        | 47<br>(12,6)       | 46<br>(12,2)              | 34<br>(9,3)        | 47<br>(12,5)       | 66<br>(14,0)               | ++    |
| Femoropopliteaal                                   | 125<br>(62,3)      | 208<br>(61,8)      | 234<br>(61,3)      | 269<br>(71,1)             | 261<br>(71,2)      | 269<br>(65,1)      | 293<br>(61,5)              |       |
| Infrapopliteaal                                    | 84<br>(41,9)       | 152<br>(43,2)      | 164<br>(42,3)      | 158<br>(42,7)             | 156<br>(43,7)      | 181<br>(47,1)      | 243<br>(53,0)              |       |
| <b>Rekening houdend met combinaties</b>            |                    |                    |                    |                           |                    |                    |                            |       |
| Alleen aortoiliacaal                               | 8<br>(4,0)         | 18<br>(5,4)        | 23<br>(6,4)        | 21<br>(5,4)               | 12<br>(3,2)        | 20<br>(6,1)        | 26<br>(5,8)                |       |
| Alleen femoropopliteaal                            | 106<br>(53,3)      | 167<br>(50,1)      | 182<br>(47,8)      | 180<br>(47,0)             | 185<br>(49,7)      | 174<br>(42,6)      | 180<br>(37,4)              | -     |
| Alleen infrapopliteaal                             | 67<br>(33,7)       | 115<br>(32,5)      | 120<br>(30,8)      | 85<br>(23,0)              | 90<br>(24,7)       | 98<br>(27,5)       | 144<br>(31,7)              |       |
| Aortoiliacaal + femoropopliteaal                   | 2<br>(0,9)         | 5<br>(1,4)         | 14<br>(3,5)        | 18<br>(4,9)               | 13<br>(3,5)        | 17<br>(4,2)        | 19<br>(3,9)                | ++    |
| Aortoiliacaal + infrapopliteaal                    | 0<br>(0,0)         | 1<br>(0,3)         | 6<br>(1,5)         | 2<br>(0,5)                | 3<br>(0,9)         | 5<br>(1,3)         | 5<br>(1,1)                 |       |
| Femoropopliteaal + infrapopliteaal                 | 17<br>(8,1)        | 33<br>(9,5)        | 34<br>(8,8)        | 66<br>(17,9) <sup>d</sup> | 57<br>(16,4)       | 73<br>(17,4)       | 78<br>(16,9)               | ++    |
| Aortoiliacaal + femoropopliteaal + infrapopliteaal | 0<br>(0,0)         | 3<br>(0,8)         | 4<br>(1,2)         | 5<br>(1,3)                | 6<br>(1,7)         | 5<br>(0,9)         | 16<br>(3,3)                |       |

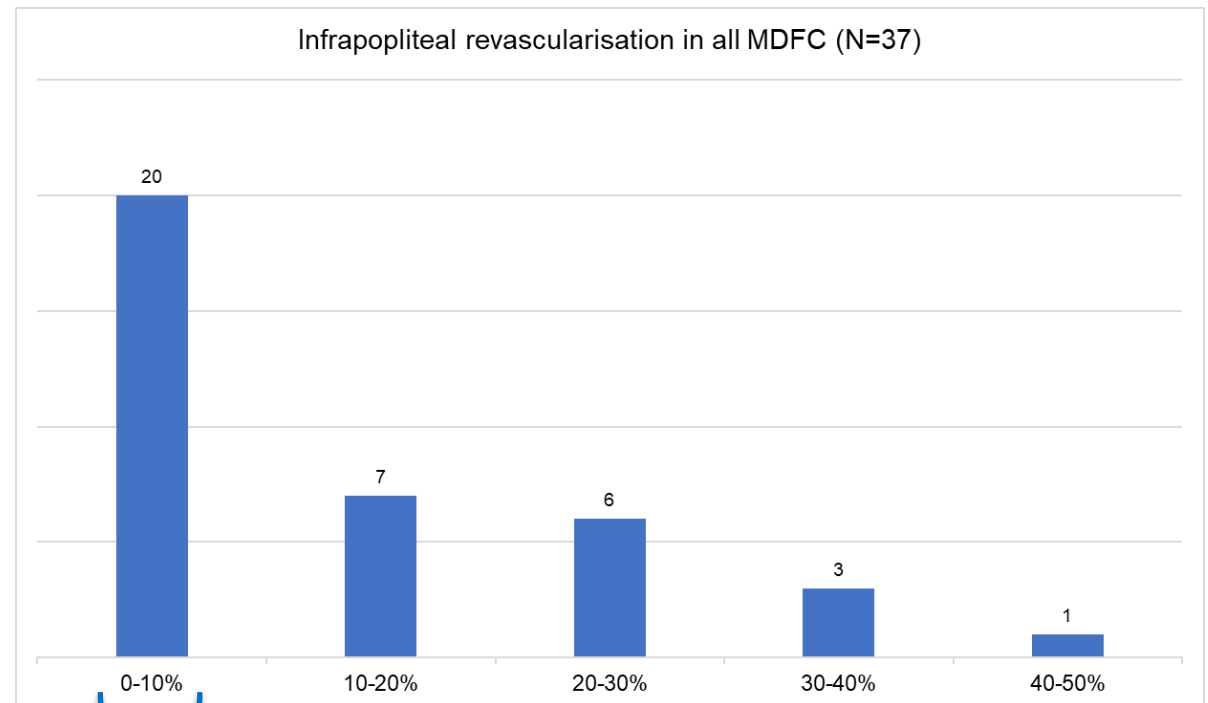
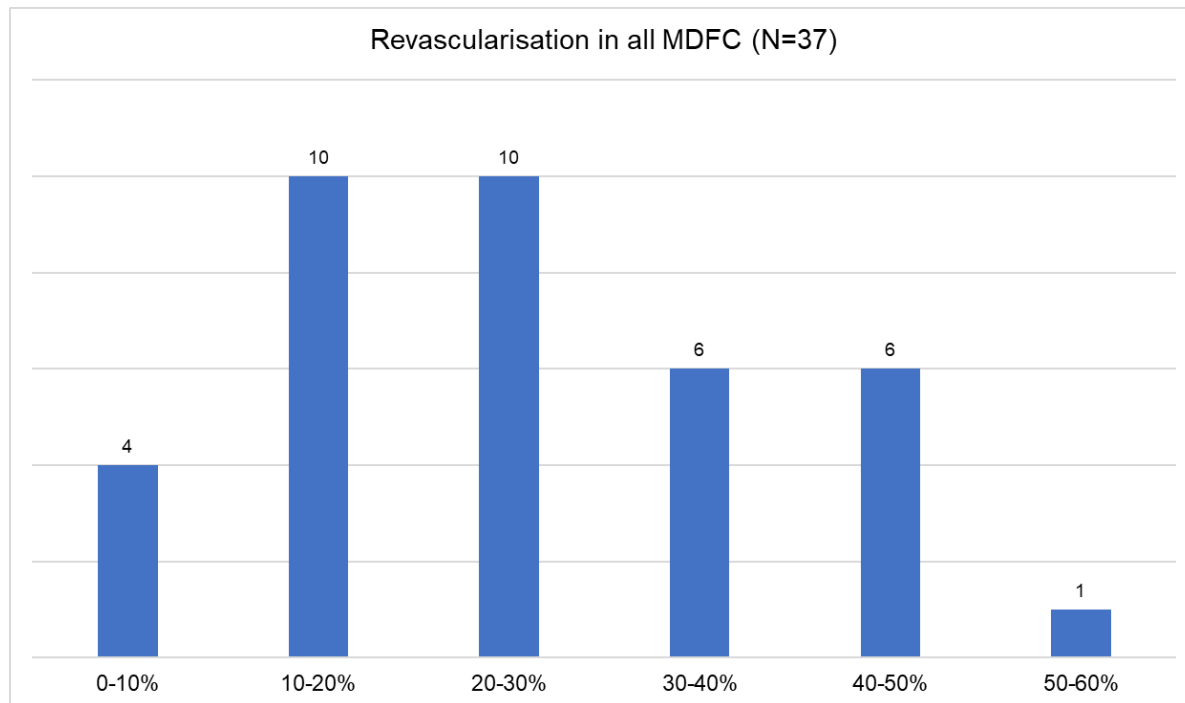
Raadpleeg paragraaf 3.1.1 op p. 17 voor instructies over hoe deze tabel te lezen.

BTK revasc gaining popularity



# (Infrapopliteal) revascularisation: between centres

AUDIT 8: MDFC (n = 37)  
% of DF-patients that were revascularized  
**246** BTK targeted in **500** revascularisations



Very low BTK treatment = Quality issue?

# IQED-Foot: Unanswered questions

Quality outcome: limb salvage (major amputation)

- minor amputation  $\neq$  treatment (or revasc.) failure!

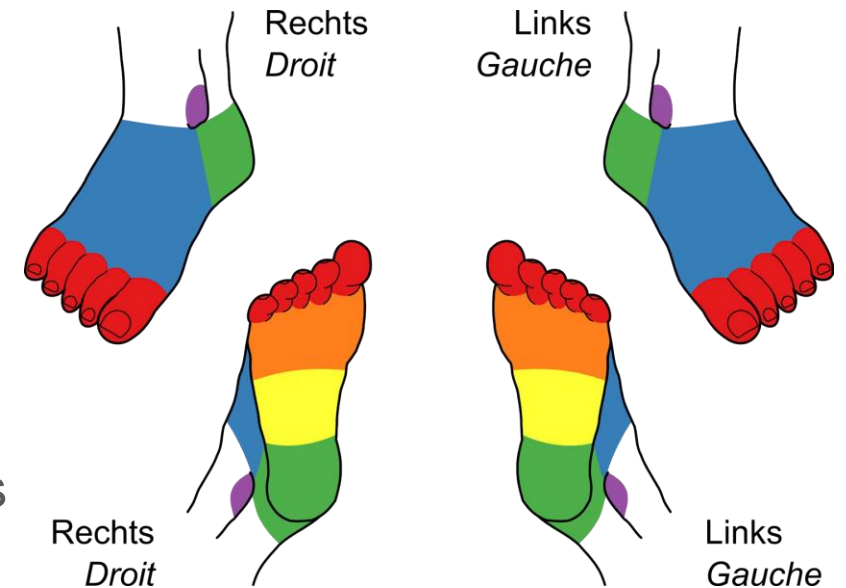
Wound topography: hindfoot MUST heal (revasc. succes)

- Compare: heel + PAD vs toe/amputation + PAD
- Against outcome and revascularisation attempt
  - Aggressive revasc warranted for hindfoot tissue defects

Timing data registration: intake vs 7 months

- Bias? 'no revascularisation' because not planned at intake, but during follow-up

PAD/CLI outcome vs no PAD?



# Advisories

## PAD

- clinical diagnosis, simple tests (doppler, wave form)
- low threshold for suspicion (see IWGDF guidelines)
- beware CT/MRI protocols: false negatives are frequent

## Foot attack

- compensate late referral with swift vascular workup + revascularisation (no IQED-foot data)

## Revascularisation strategy

- endovascular predominantly (reasons...)
- popliteal pulsation present: green light for endovascular first
- 'flow-limiting lesion' vs '~~Inflow first, then (BTK) Outflow~~'
- BTK targeting: identify inhibitors



Please select 1 option.

Complete the following statement:

Which situation fits best? 'In our MDFC, the vascular surgeon ...'



**Please select 1 option.**

**Peripheral arterial disease / critical limb ischemia in diabetic foot patients can be multi level (iliac, femoral, SFA, popliteal, BTK, ankle and foot). Which revascularisation approach suits me best?**



A patient presents with a chronic wound and peripheral arterial disease is clinically suspected. A vascular workup, imaging of the arteries and – eventually – a revascularisation is required.

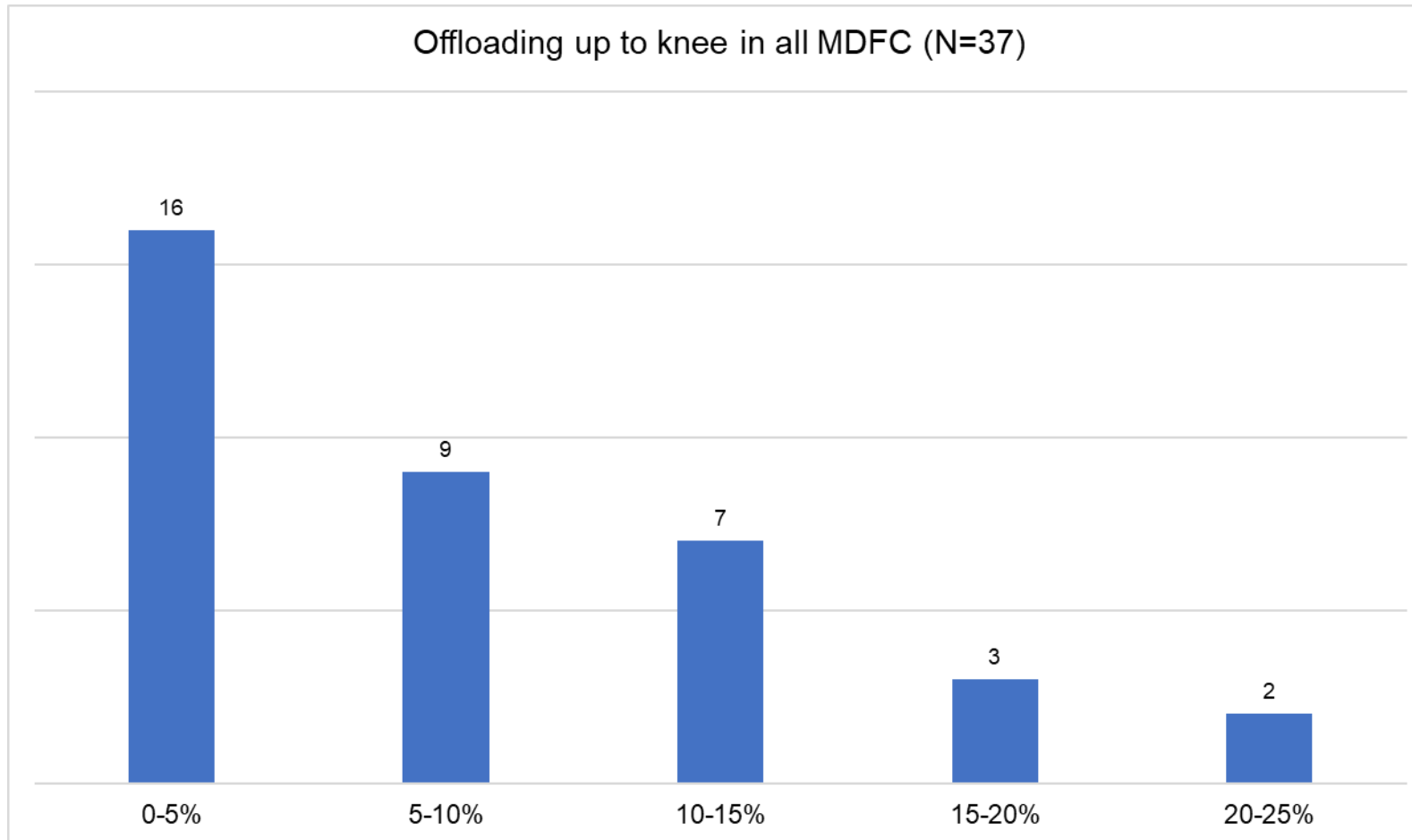
Estimate the average number of days between first consultation and revascularisation.

Please answer with a number (1, 2, 3, ...) of days.

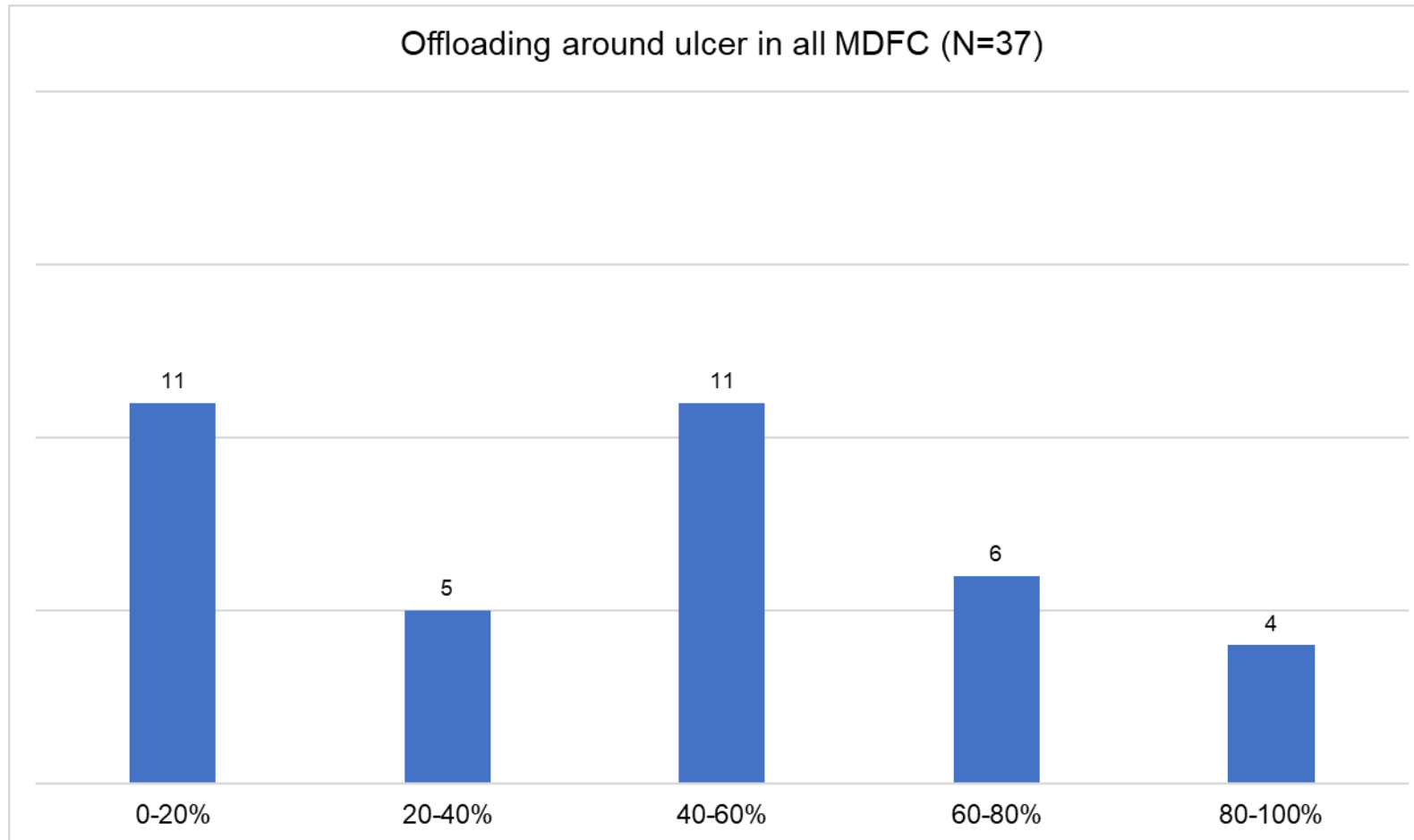
# THE PRACTICE OF OFFLOADING: THE GOOD, THE BAD AND THE UGLY

Prof Dr Frank Nobels (diabetologist, AZORG Aalst), Dr Patrick Lauwers (vascular surgeon, UZ Antwerp), Prof Dr Giovanni Matricali (orthopaedic surgeon, UZ Leuven)

# Offloading up to the knee



# Offloading around the ulcer



# Offloading: IWGDF guideline 2023

Launch: 2023 Offloading medalists

The graphic features a podium with three levels. The top level (1st place) is marked with a gold laurel wreath and the number '1'. It displays a white sock and a white shoe. The middle level (2nd place) is marked with the number '2' and shows a grey cast boot, a blue shoe, and a person wearing a grey cast boot and a white shoe. The bottom level (3rd place) is marked with the number '3' and shows a brown shoe and a white shoe. To the right of the podium, there is a black shoe with a red 'X' over it, indicating it is not recommended. The background includes various icons: a book, a foot, a checklist, a cell, a foot with a bandage, a bandage, a foot, and gears. At the bottom, the IWGDF Guidelines logo and website URL are visible.

IWGDF Guidelines [www.iwgdfguidelines.org](http://www.iwgdfguidelines.org)

## Case: MG ♀ 75y

- T2D
- Ethylism
- neuropathy, no vascular disease
- has been walking around with wound for some time
- has old semi-orthopaedic shoes, which she does not tighten adequately
- husband brain tumour, lots of worries

?



## Case: MG ♀ 75y

- T2D
- Ethylism
- neuropathy, no vascular disease
- has been walking around with wound for some time
- has old semi-orthopaedic shoes, which she does not tighten adequately
- husband brain tumour, lots of worries



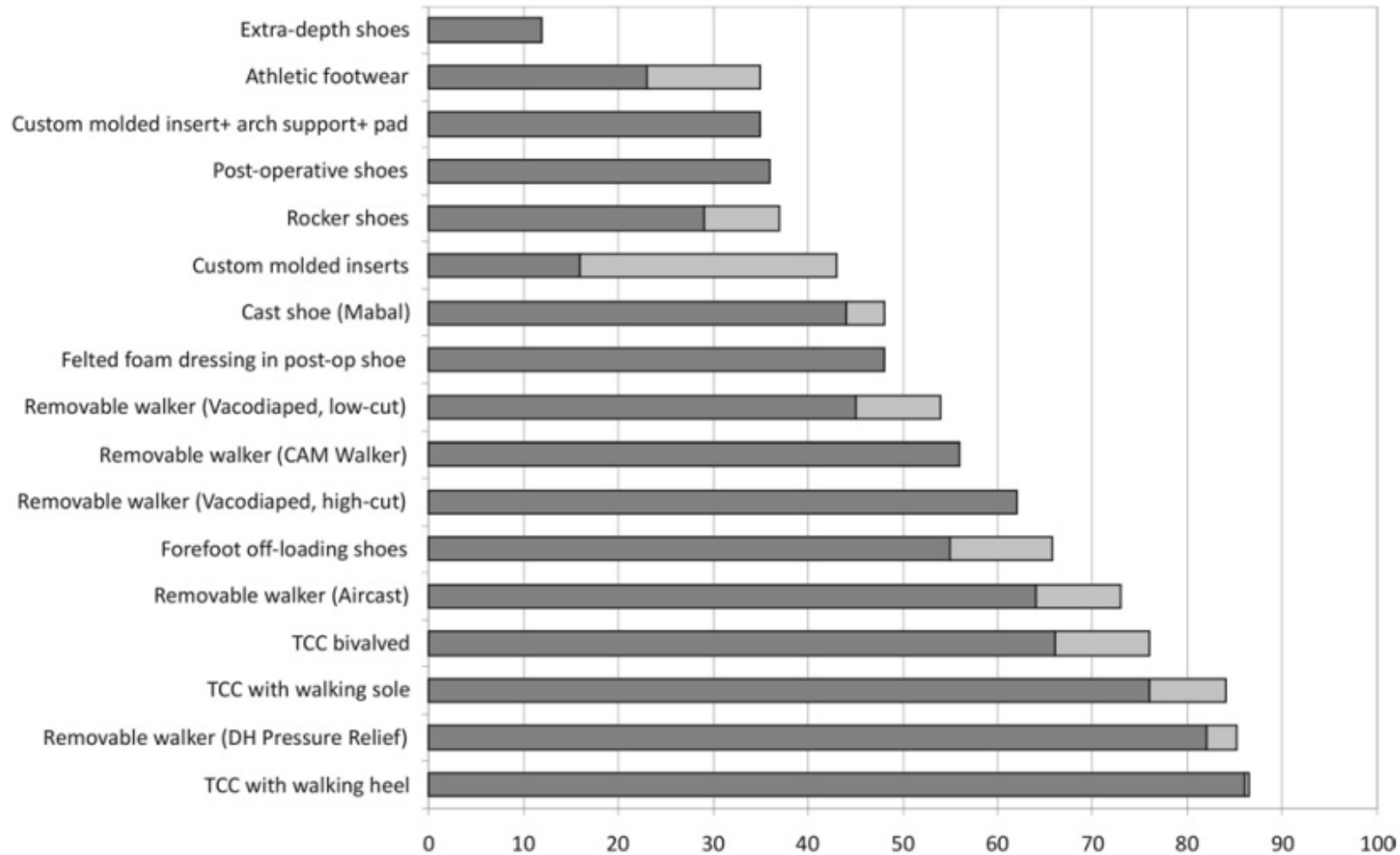
# Felt + cotton wool + velpeau + woundshoe



reasonable offloading  
removable, but not easy to do this unnoticed



# Offloading: pressure relief



# Offloading: gold standards not always feasible

|   | Standard care<br>(n=134) | LeucoPatch plus<br>standard care (n=132) | Total<br>(n=266) |
|---|--------------------------|--|------------------|
| Affected foot position, n (%)§                    |                          |  |                  |
| Total forefoot                                    | 99 (74%)                 | 108 (82%)                                | 207 (78%)        |
| Plantar forefoot                                  | 54 (40%)                 | 57 (43%)                                 | 111 (42%)        |
| Hind foot   | 35 (26%)                 | 24 (18%)                                 | 59 (22%)         |
| Type of offloading                                |                          |  |                  |
| Bedbound or immobile                              | 3 (2%)                   | 4 (3%)                                   | 7 (3%)           |
| Normal footwear                                   | 10 (7%)                  | 14 (11%)                                 | 24 (9%)          |
| Normal footwear plus fitted insoles<br>or inserts | 6 (4%)                   | 6 (5%)                                   | 12 (5%)          |
| Fitted footwear or orthoses                       | 35 (26%)                 | 38 (29%)                                 | 73 (27%)         |
| Padded slipper or shoe                            | 27 (20%)                 | 28 (21%)                                 | 55 (21%)         |
| Removable cast or device for foot                 | 34 (25%)                 | 31 (23%)                                 | 65 (24%)         |
| Removable cast or device for lower leg            | 25 (19%)                 | 17 (13%)                                 | 42 (16%)         |
| Non-removable cast or device for foot             | 1 (1%)                   | 3 (2%)                                   | 4 (2%)           |
| Non-removable cast or device for<br>lower leg     | 4 (3%)                   | 6 (5%)                                   | 10 (4%)          |

***LeucoPatch trial. Game F, et al. Lancet Diabetes Endocrinol 2018***

# Case: DWM ♀ 68y

presentation 27/02/2025

- T2D
- neuropathy, no vascular disease
- reconstruction Lisfranc right foot for Charcot (3/2019)
- obese, arthrosis, difficult gait  
→ TCC not feasible

?



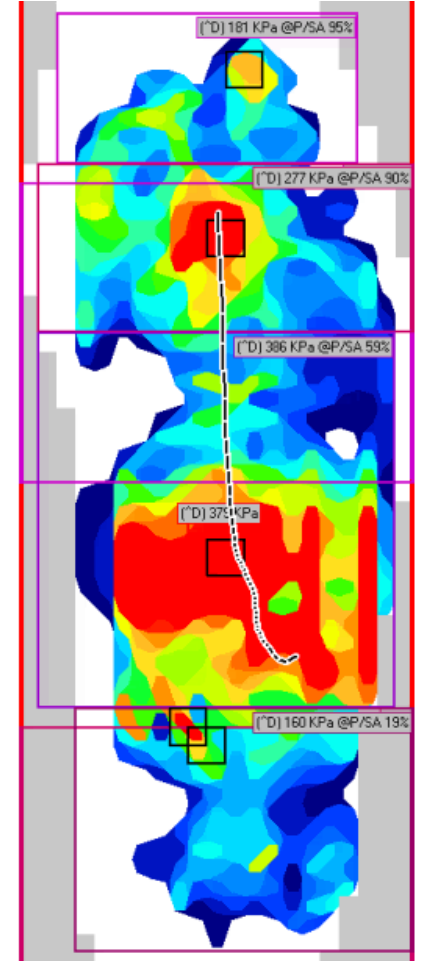
# Case: DWM ♀ 68y

presentation 27/02/2025

- T2D
- neuropathy, no vascular disease
- reconstruction Lisfranc right foot for Charcot (3/2019)
- obese, arthrosis, difficult gait  
→ TCC not feasible

**punctual use of orthopaedic shoes, also indoors !**

**→ 31/3 healed**



# Importance of biomechanics to guide footwear and, if necessary, corrective foot surgery



# Offloading: IWGDF guideline 2023

Launch: 2023 Offloading medalists

The graphic features a podium with three levels. The top level (1st place) is marked with a gold laurel wreath and the number '1'. It displays a white sock and a white shoe. The middle level (2nd place) is marked with the number '2' and shows a grey cast boot, a blue shoe, and a person wearing a grey cast boot and a white shoe. The bottom level (3rd place) is marked with the number '3' and shows a brown shoe and a white shoe. To the right of the podium, there is a black shoe with a red 'X' over it, indicating it is not recommended. The background includes various icons: a book, a foot, a checklist, a cell, a foot with a bandage, a bandage, a foot, and gears. At the bottom, the IWGDF Guidelines logo and website URL [www.iwgdfguidelines.org](http://www.iwgdfguidelines.org) are visible.

## Case: A ♀ 60y

- T2D (2003)
- obese (BMI 47), Hashimoto, HD, sleep-apnea
- neuropathy, increased ABI
- history of multiple foot problems
  - amputation R hallux & D4
  - lisfranc Charcot R
  - multiple ulcers
  - correction hammertoes
- difficult coping
- has orthopaedic shoes, but....



## Case: A ♀ 60y

- Recurrent development of ulcera bilateral (several locations)
- Recurrent treatment with TCC, felt, acute phase shoes, hammer toe correction, ...
- > always good result
- Orthopaedic shoes since 2015
  
- >> In Shoe pressure gait analysis?
- Compliance?

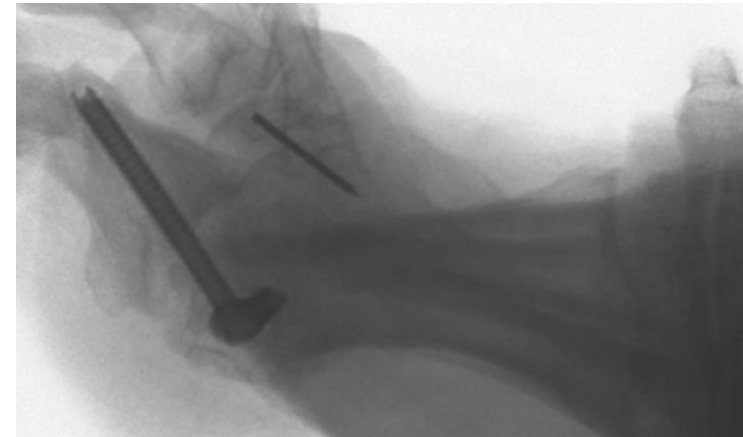
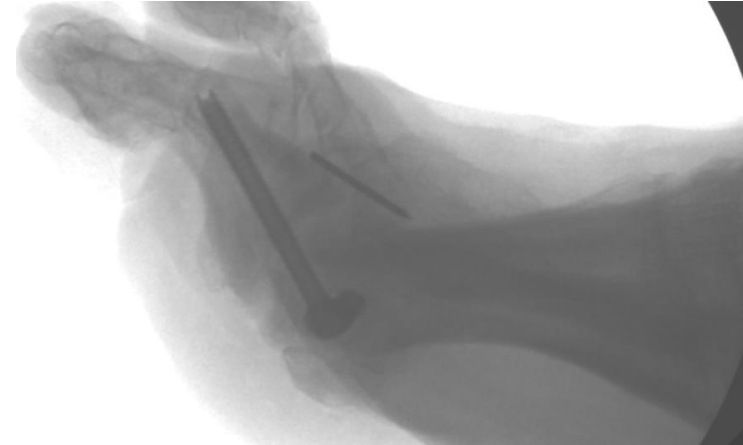
# Case: B ♂ 70y

- T2D (2006)
- Obese, high BP, metabole syndrome
- neuropathy, sufficient ABI & TcpO2
- Difficult coping
- History of multiple foot problems (R)
- Multiple ulcers
- MTP1 desis + pseudarthrosis
- Short gastric
- >> Correction hammertoes / plantar overload
- has orthopaedic shoes, but.....



# Case: B ♂ 70y

- After several years a new ulcer
- Again short AT
- New surgical correction
- >> MIS shaving medial sesamoid; tricut AT lengthening



# Importance of biomechanics to guide footwear and, if necessary, corrective foot surgery



# THE PODIATRIST IN THE DIABETIC FOOT CLINIC: ROLE, CHALLENGES AND FUTURE

Mr Cédric Lannoo (podiatrist, UZ Ghent), Ms Sabine De Bruyne (podiatrist, AZ Sint Lucas Ghent), Prof Dr Eveline Dirinck (diabetologist, UZ Antwerp)

# Aim

- To evaluate the role of the podiatrist in the multidisciplinary diabetic foot clinics (MDFC)
- To learn from good practices and move forward towards an even better integration of the podiatrist in the MDFC

# The podiatrist in the MDFC

The field of podiatry is considered one of the most important disciplines in the interdisciplinary care of the MDFC

- Expertise in the foot
- Specific training in biomechanics

Favourable impact on patient outcome

- Regarding major amputations (Blanchette et al., 2020)
- Healing of the ulcer and time until healing is advanced (Blanchette et al., 2018)

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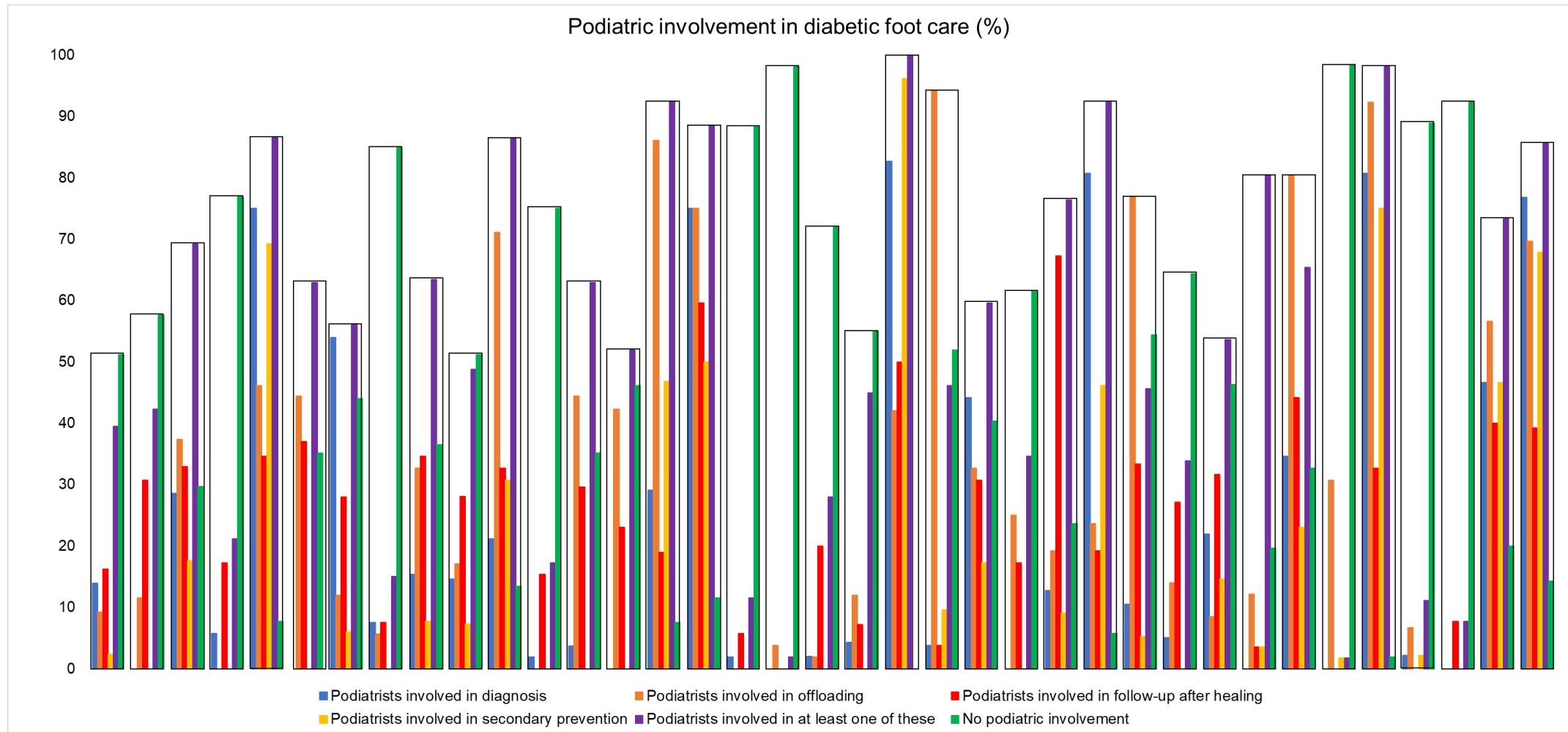


**Please select 1 option.**

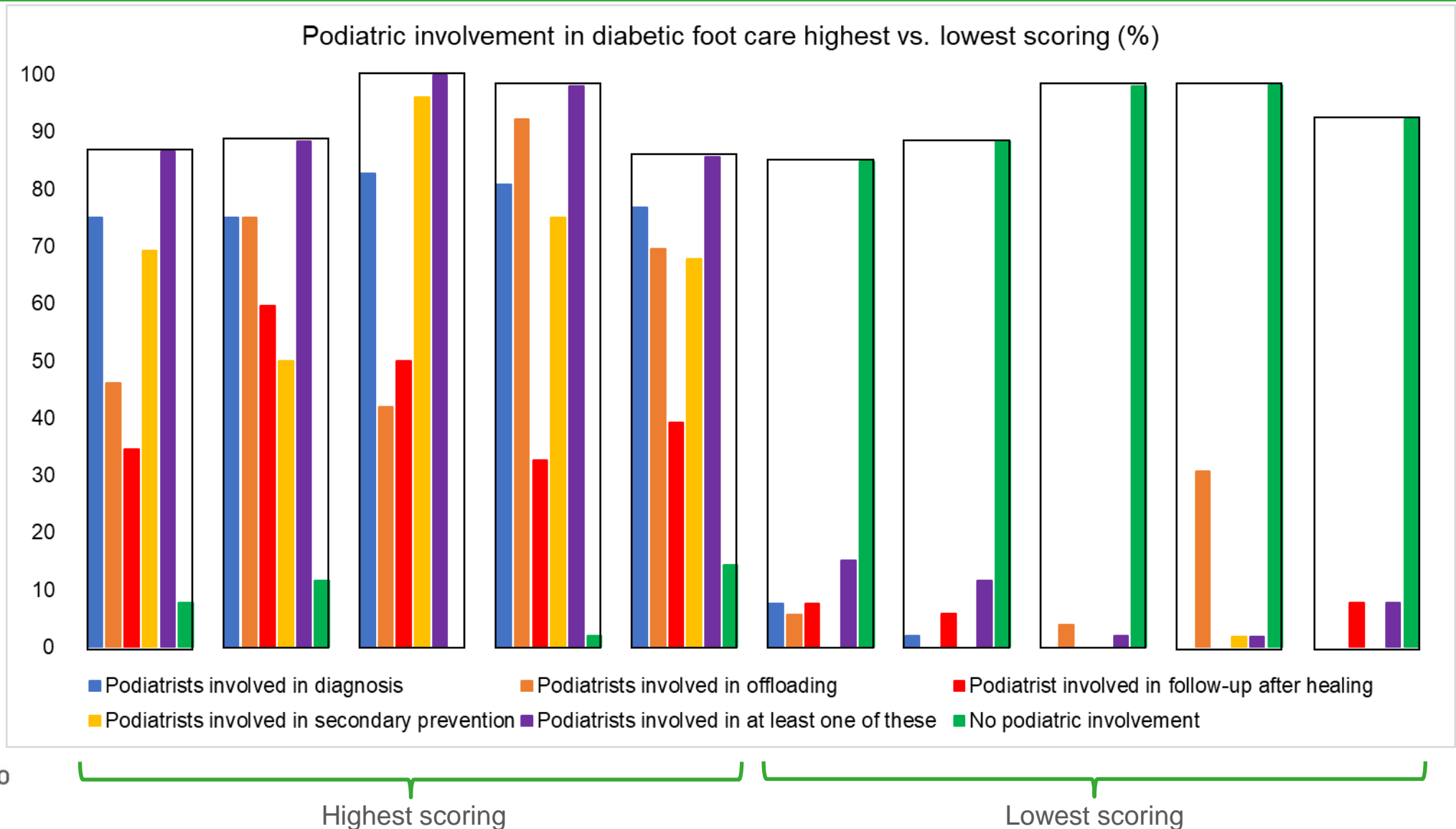
**Who is Who?**

① Start presenting to display the poll results on this slide.

# Podiatric involvement in diabetic foot care



# Podiatric involvement in diabetic foot care



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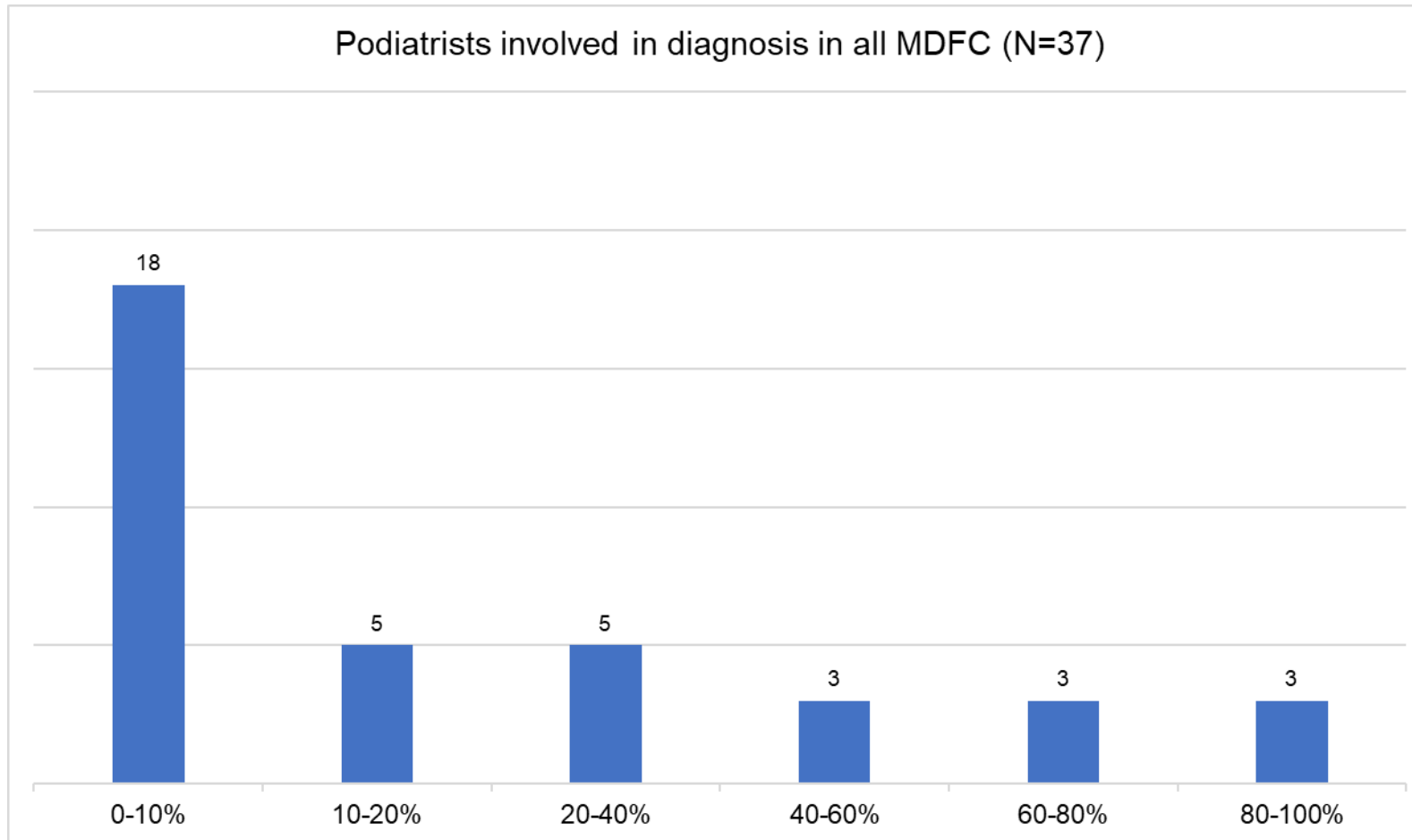


**A podiatrist is an obligated (required) member of the MDFC.**

**Why is there limited or no involvement in some of the MDFC?**

① Start presenting to display the poll results on this slide.

# Podiatric involvement in diagnosis



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**Please select all that apply.**

**What tasks are you involved in as a podiatrist?**

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**Please select 1 option.**

**Do you use any supportive consultation  
(paramedic involvement only) during foot clinic  
hours?**

① Start presenting to display the poll results on this slide.

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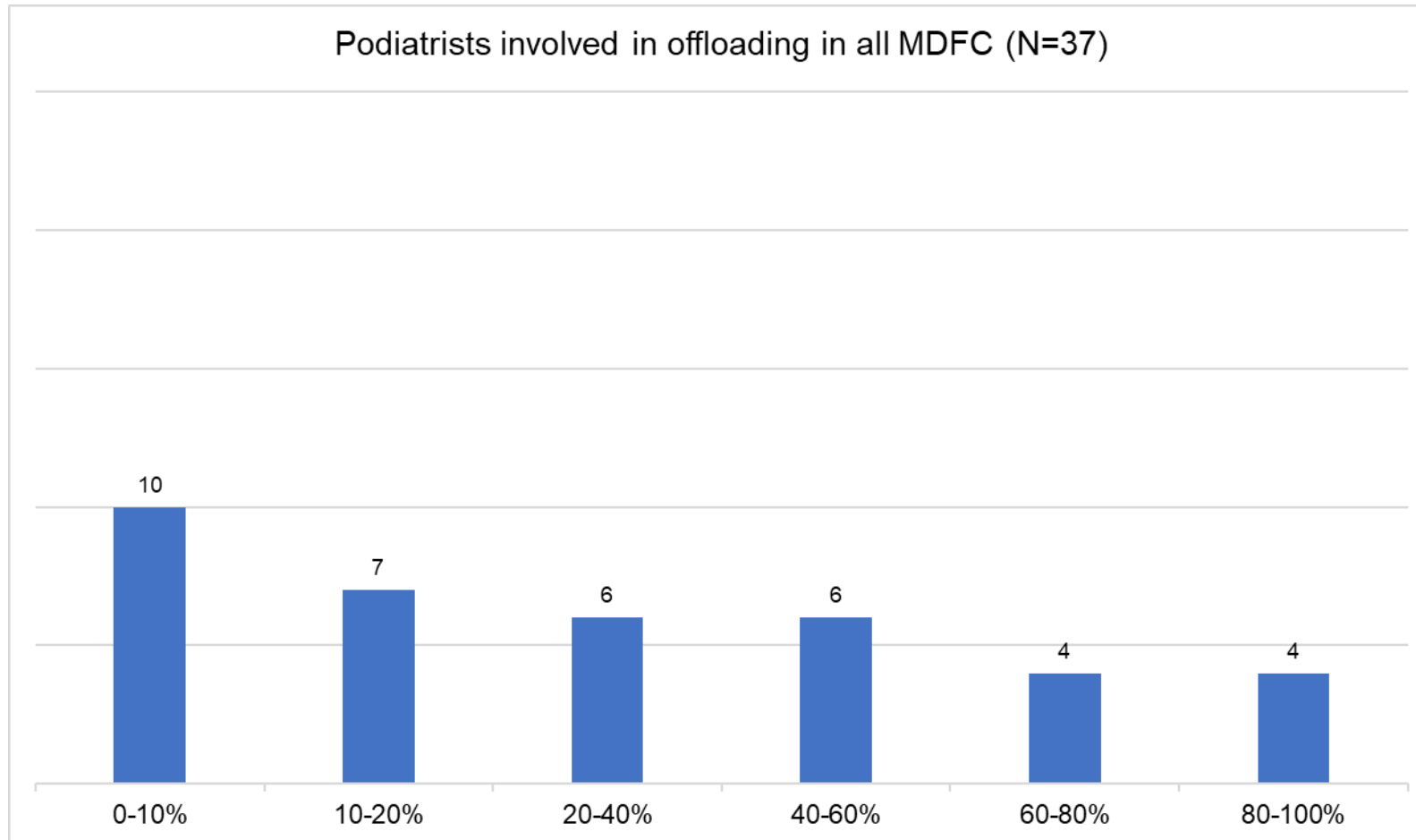


**Please select all that apply.**

**Who takes care of the intermediate foot injuries outside the working hours of the MDFC?**

① Start presenting to display the poll results on this slide.

# Podiatric involvement in offloading



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**Please select all that apply.**

**Who in your MDFC removes calluses around a wound?**

① Start presenting to display the poll results on this slide.

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**Please select all that apply.**

**Who in your MDFC places felt around a wound if necessary?**

① Start presenting to display the poll results on this slide.

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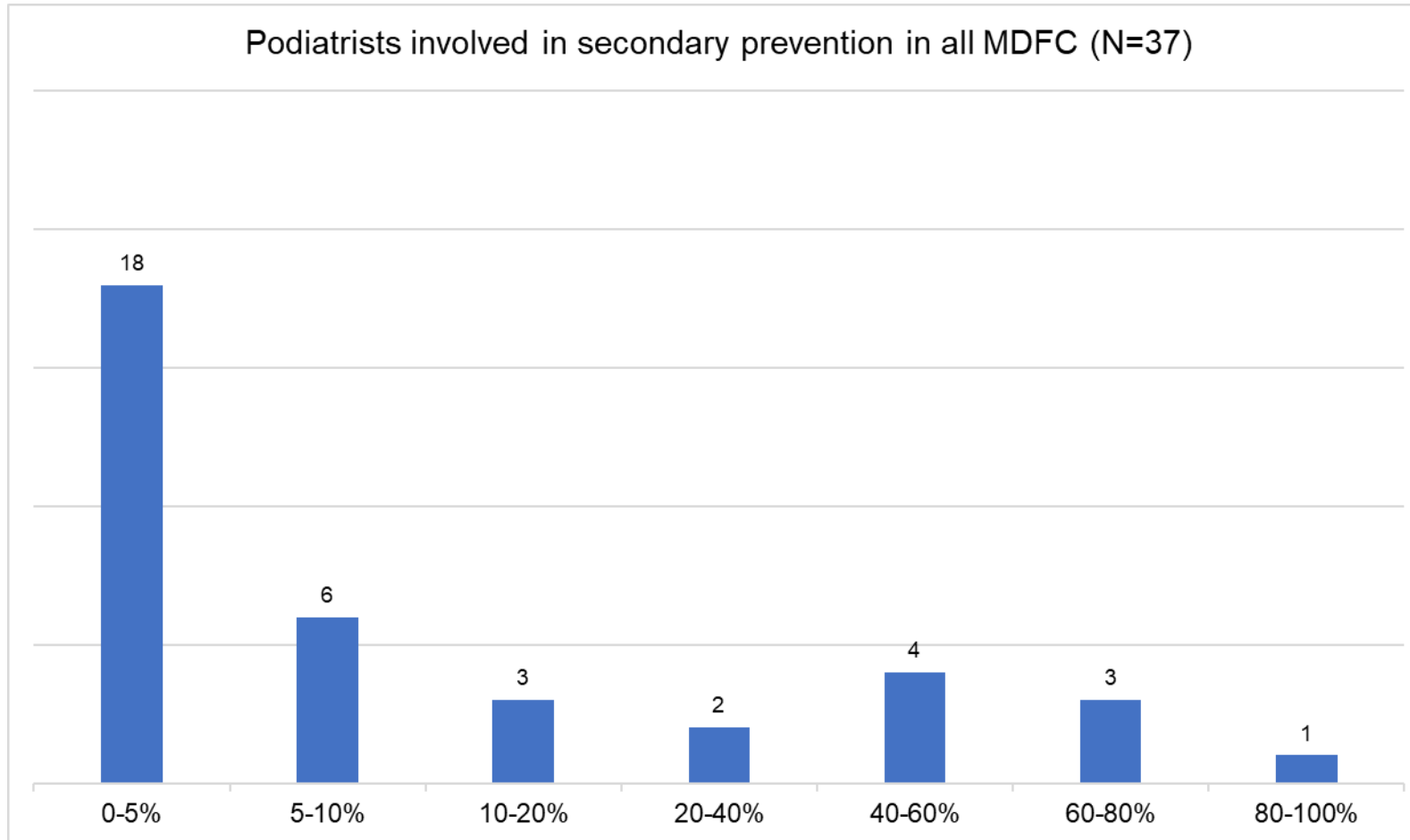


**Please select all that apply.**

**Who in your MDFC RECOMMENDS  
the type of offloading DURING  
healing?**

① Start presenting to display the poll results on this slide.

# Podiatric involvement in secondary prevention



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**Please select all that apply.**

**Who in your MDFC RECOMMENDS  
the type of offloading AFTER  
healing?**

① Start presenting to display the poll results on this slide.

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**Please select all that apply.**

**Who in your MDFC  
RECOMMENDS insoles to the  
patients?**

① Start presenting to display the poll results on this slide.

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**Please select all that apply.**

**Who in your MDFC RECOMMENDS (semi-) orthopaedic shoes to the patients?**

① Start presenting to display the poll results on this slide.

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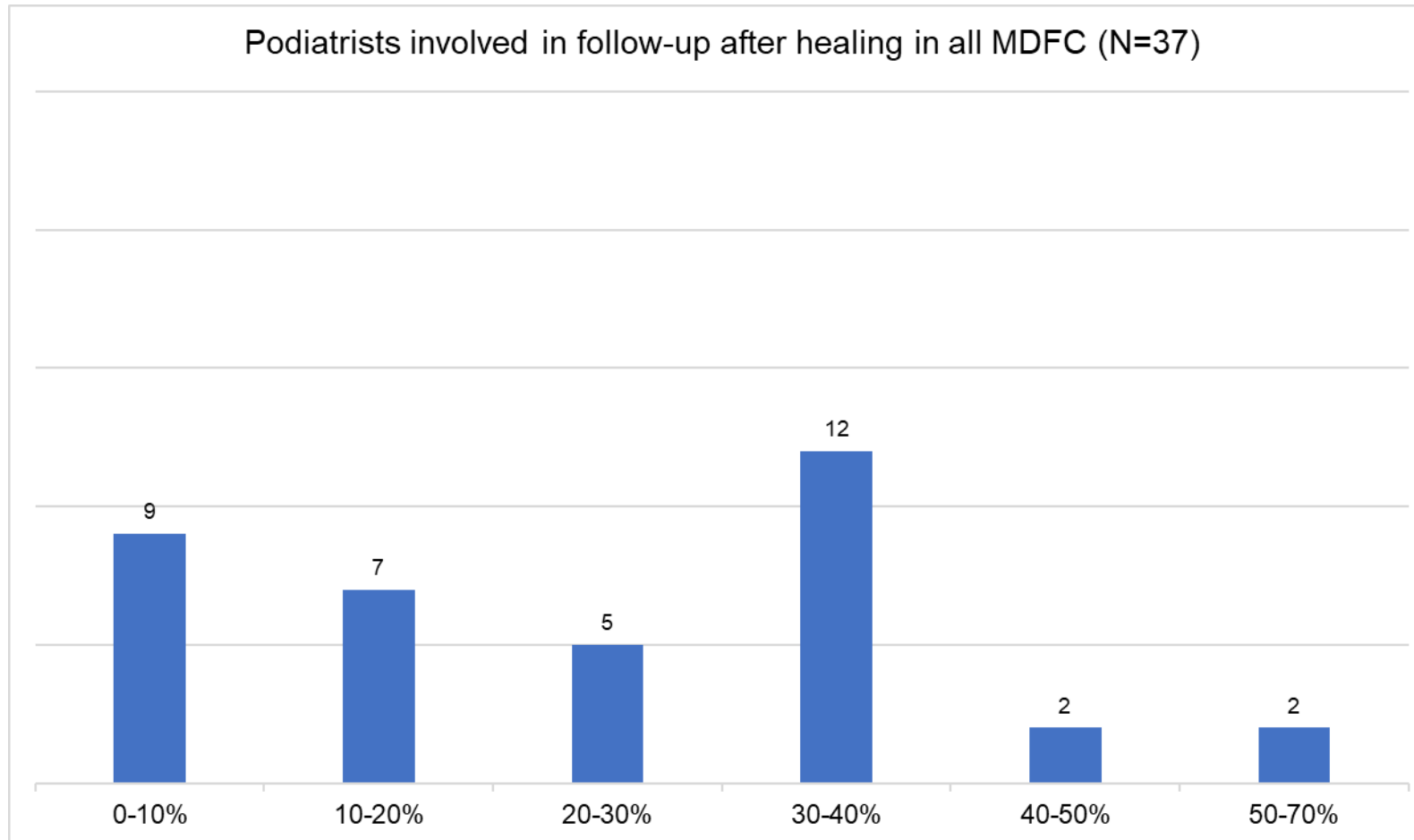


**Please select 1 option.**

**At what moment is the podiatrist in first line most involved?**

ⓘ Start presenting to display the poll results on this slide.

# Podiatric involvement in follow-up after healing



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**Please select all that apply.**

**Who INFORMS the patient about podiatric follow-up after wound healing?**

① Start presenting to display the poll results on this slide.

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**Please select all that apply.**

**What kind of information is given to the patient?**

① Start presenting to display the poll results on this slide.

# Kringproject diabetes

The 'kringproject diabetes' <https://www.podologie.be/kringwerking> was started by the RBPA and financed by the Flemish government with the aim of

- Developing a quality framework for integrated care for diabetic patients with at higher risk of foot problems, based on the IWGDF guidelines <https://iwgdfguidelines.org/guidelines-2023/>
- Realising the prevention of foot injuries through the development of standardised screening protocols for the different actors in primary foot care in Flanders
- With the cooperation of the 'Commissie Voet' active within the Diabetes Liga



# Bibliography

- Blanchette V, Brousseau-Foley M, Cloutier L. Effect of contact with podiatry in a team approach context on diabetic foot ulcer and lower extremity amputation: systematic review and meta-analysis. *J Foot Ankle Res.* 2020;13
- Blanchette V, Hains S, Cloutier L. Establishing a multidisciplinary partnership integrating podiatric care into the Quebec public health-care system to improve diabetic foot outcomes: A retrospective cohort. *Foot Edinb Scotl.* 2019;38:54-60.

# CLOSING REMARKS

Margot Buyle PhD and Dr Michel Vandembroucke

# What have we learned today (1/6)

- We saw/heard 3 beautiful presentations dealing with the results of IQED-Foot audit 8
- Most of you participated in vivid but fruitful discussions
- Nevertheless, we end up with a lot of paradoxical situations

# What have we learned today (2/6)

## VASCULAR STATUS:

1. We all perform clinical vascular examination, followed by appropriate additional testing
2. But we do not apply our own standards of care:
  - 'Gold standards' interventions are only chosen in a relatively small % of the cases
  - It remains somewhat unclear who is taking the decisions about the type of intervention that is needed
  - Questions remain which approach is most suitable: upper leg versus BTK
  - There seems to be no consensus regarding follow-up: timing, initiative, responsibility, outcome registration, adverse effects management, ...
  - We all welcome the foot attack principle, nevertheless semi-urgent steps are not taken swiftly

# What have we learned today (3/6)

## OFFLOADING:

1. We all are aware of the utmost importance of offloading
2. But we do not apply our own standards of care:
  - 'Gold standards' interventions like TCC are hardly practiced
  - We deal with pressure overload using inspection instead of measuring it, f.i. using in shoe pressure
  - Although we are aware that patients do not always answer correctly, we rely on these answers in deciding on further diagnostic and therapeutic measures
  - We are aware of the surgical possibilities of in foot pressure relief but remain, like the patients, reluctant to practice them

# What have we learned today (4/6)

## COLLABORATION WITH PODIATRISTS:

1. We all agree that we need podiatrists in our multidisciplinary teams
2. But in practice:
  - Audit 8 revealed large variety among MDFC
  - It remains unclear which tasks can be delegated to the podiatrists
  - There also seems to be no consensus among podiatrists themselves about their role in the team
  - Podiatrists are insufficiently involved in decision-making during follow-up
  - Over the last 2 decades, working in a MDFC became less attractive for podiatrists

# What have we learned today (5/6)

## FUTURE:

1. We appreciate new challenges to be pursued, like increasing number of patients and additional evaluations such as nutritional status, degree of frailty, promoting mobility, ...
2. But in practice:
  - Most of us lack the time to cope with this
  - We see an increase in the number of 'daily life tasks' like reporting, registering, prescribing, applying for agreement/reimbursement, informing patients and relatives, ...

# What have we learned today (6/6)

- We saw/heard 3 beautiful presentations dealing with the results of IQED-Foot audit 8
- Most of you participated in vivid but fruitful discussions
- Nevertheless, we end up with a lot of paradoxical situations

Luckily we can find some tools and answers in the *barrier survey* results: Based on this survey, we can advise all MDFC to **choose one or more focus points** from this survey and **create a platform** in our MDFC in order to **find and implement a solution**.

Reasons General Higher Rates



Reasons General Lower Rates



→ Next steps?

# Thank you!

## ASTRID LAVENS

Project Responsible IQED  
JACARDI coordinator



## KALINA TODOROVA

Project Responsible JACARDI



Diabetes in  
specialized centers

## MARGOT BUYLE

Project Responsible IQED-Foot  
JACARDI coordinator  
Team lead



## SUCHSIA CHAO

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