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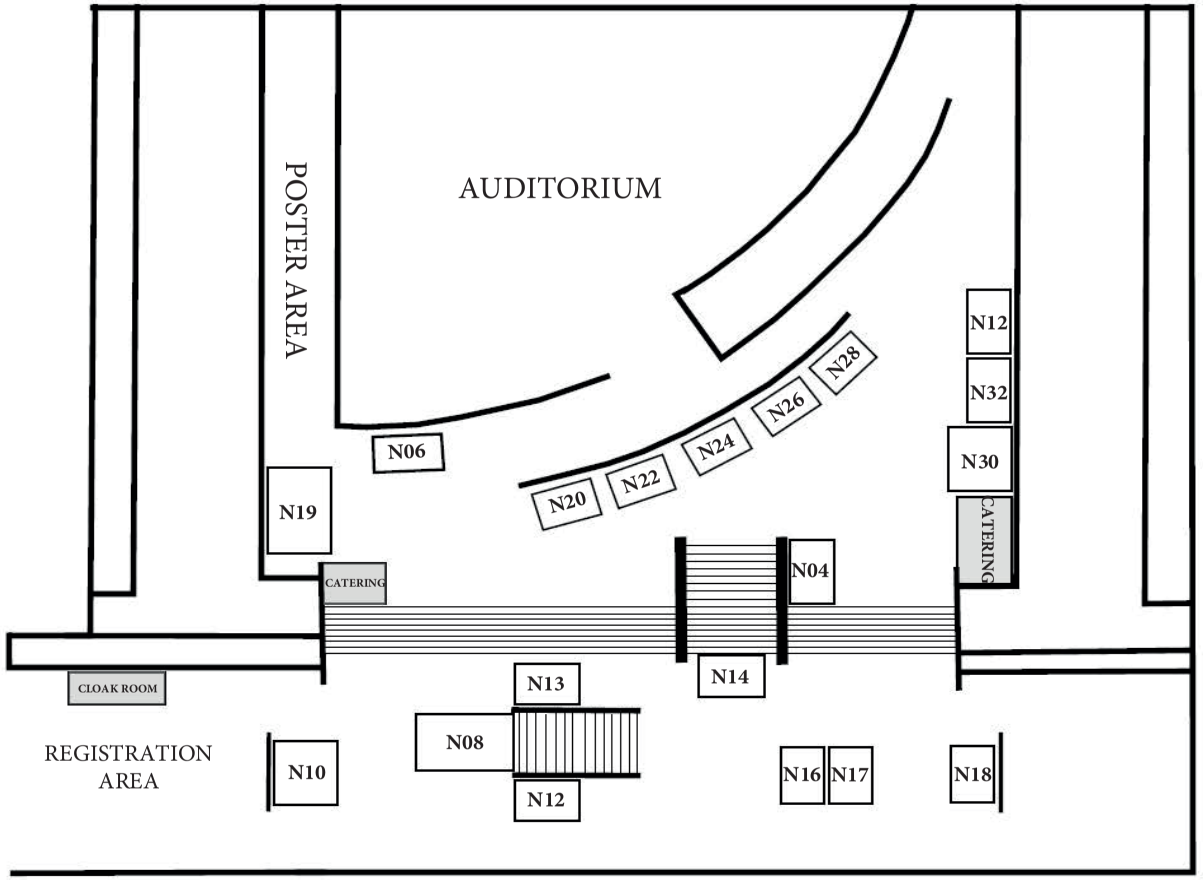
2nd Nordic Diabetic Foot Symposium

5 - 6 October 2016 • Copenhagen, Denmark

NORDIC
Diabetic Foot



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Welcome to the 2nd Nordic Diabetic Foot Symposium

It is with great pleasure that we welcome you in Copenhagen for the 2nd Nordic Diabetic Foot Symposium.

The symposium is organised by the Nordic Diabetic Foot Task Force: a network bringing together national and international healthcare clinicians with multidisciplinary backgrounds with the aim to promote the systematic implementation of national clinical guidelines for diabetic foot care in the Nordic countries.

At our first symposium the national working groups of the Nordic Diabetic Foot Task Force committed themselves to achieve individual goals for the process of implementation of guidelines in their own country. Their process and achievements will be disclosed at this symposium and goals for the future will be stated.

In tune with the first symposium, we have planned a programme composed of both plenary talks, meet the experts sessions and hands-on workshops in order to provide a forum for dissemination of high level scientific evidence as well as local examples of best practice diabetic foot care.
Speakers, primarily from Nordic countries, but also from other European countries will share their knowledge with us.

We would like to express our gratitude to the companies that have helped to make the 2nd Nordic Diabetic Foot Symposium possible, and we invite you to visit their stands during the breaks.

We also invite you to visit the poster exhibition during the breaks: as something new this year, it was possible to submit abstracts for the symposium.

Finally, we have cordially been invited by the city of Copenhagen for a reception at the City Hall. We hope you will join us there, on Wednesday 5 October, at 18.30.

We look forward to spending two interesting days with you.
Kind regards
On behalf of the Nordic Diabetic Foot Task Force Steering Committee
MD Klaus Kirketerp-Møller, Chair Nordic Diabetic Foot Symposium

NORDIC
Diabetic Foot

General information

Venue
Copenhagen University
Panum Building
Blegdamsvej 3B
2200 Copenhagen N
Denmark

Information for speakers
Please put your presentation on a memory stick and bring it to the staff member in the symposium room (at the latest during the break before your presentation). The staff member will transfer the presentation to the symposium server and make sure your presentation runs smoothly.
At the end of the symposium, all presentations will be deleted so no copyright issues will arise.

Meals
Coffee breaks and lunches, as well as welcome reception at the City Hall on 5 October, are included in the registration fee.

Internet
A personal login and access code will be handed out with your delegate badge upon registration.

Certificates of attendance
Please contact the symposium secretariat for a certificate of attendance, either at the registration desk on 6 October, or send an email to info@cap-partner.eu.

Contact information
If you have any questions or need help during the symposium, please go to the registration desk.

Welcome reception at Copenhagen City Hall
The Lord Mayor of Copenhagen cordially invites all symposium participants for a welcome reception at the City Hall, Wednesday 5 October, 18.30-19.45.
Address:
Copenhagen City Hall
Rådhuspladsen 1
1599 Copenhagen V.

About Copenhagen
To make the most out of your stay in Copenhagen, we suggest to visit the official tourist information website: www.visitcopenhagen.com.

Come to the City Hall reception: network, enjoy the beautiful settings and taste the famous city hall pancakes…

Sponsors and exhibitors

The Task Force Steering Committee members wish to express our gratitude to the following companies who have helped to make the 2nd Nordic Diabetic Foot Symposium possible.

For a short presentation about the companies, please see page xxx.

We also invite you to visit them at their stands during the breaks.

Sponsors

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Industry symposia

Thursday 6 October
14:15 – 15:00
BONESUPPORT
Woundcare-Circle

Symposium secretariat

CAP Partner
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Wednesday 5 October

Time	Place	Subject
09.30 – 10.30		Registration, exhibition and coffee
10.30 – 12.30	Lundsgaard auditorium	INTRODUCTION AND STATUS OF DIABETIC FOOT TREATMENT IN THE NORDIC COUNTRIES Chair: Klaus Kirketerp-Møller
10.30 – 10.40		Opening and welcome *Klaus Kirketerp-Møller*
10.40 – 11.05		Compliance, adherence or 'laissez-nous faire'. The paradox in neuropathy *Klaus Kirketerp-Møller*
11.05 – 11.40		What's new in the IWGDF Guidelines of 2015 *Kristien Van Acker*
		Current situation of care in the Nordic countries: Status and future perspectives based on objectives set in the 1st NDF Symposium
11.40 – 11.50		Sweden *Magnus Löndahl*
11.50 – 12.00		Norway *Tore Julsrud Berg*
12.00 – 12.10		Finland *Vesa Juutilainen*
12.10 – 12.20		Denmark *Klaus Kirketerp-Møller*
12.20 – 12.30		Iceland *Tómas Þór Ágústsson*
12.30 – 14.00		Lunch, exhibition and posters
14.00 - 15.30		NATIONAL SESSIONS
14.00 - 15.30	Haderup auditorium	Swedish session *Magnus Löndahl*
14.00 - 15.30	Hannover auditorium	Norwegian session *Tore Julsrud Berg*
14.00 - 15.30	Room 21.2.26	Finnish session *Vesa Juutilainen*
14.00 - 15.30	Lundsgaard auditorium	Danish session *Klaus Kirketerp-Møller*
14.00 - 15.30	Room 20.1.24	Icelandic session *Tómas Þór Ágústsson*
15.30 - 16.00		Coffee, exhibition and posters
16.00 - 17.30	Lundsgaard auditorium	MEET THE EXPERTS / RECOMMENDED TREATMENT REGIMES Chair: Magnus Löndahl
16.00 - 16.15		Antibiotics when to treat and alternatives *Niels Frimodt-Møller*
16.15 - 16.30		Pressure offloading in treatment and prevention *Sicco Bus*
16.30 - 16.45		Revascularization: how and when to, and not to *Pirkka Vikatmaa*
16.45 - 17.00		Prophylactic surgery *Ralph Springfeld*
17.00 - 17.15		Multidisciplinary diabetic foot care teams in Norwegian specialist health care - a national survey *Mari Robberstad*
17.15 - 17.30		D-Foot, a Swedish example of foot screening and risk classification *Ulla H Tang*

Thursday 6 October

Time	Place	Subject
09.00 – 11.00	Lundsgaard auditorium	PATIENT PERSPECTIVE, ORGANISATION OF CARE AND QUALITY CONTROL Chair: Tore Julsrud Berg
09.00 – 09.15		Quality of care – how is it monitored and controlled - Steno Diabetes Centre *Henrik Ullits Andersen*
09.15 – 09.30		Quality of care – how is it monitored and controlled – German-Belgian model – certification system *Kristien Van Acker*
09.30 – 09.45		Problems with delay in care - and how we deal with it Jan Apelqvist
09:45 – 10.00		Telemedicine in wound care – recent evidence and future perspectives *Benjamin Schnack Rasmussen*
10.00 – 10.15		The life of a diabetic foot patient 15 years prior to amputation *Pia Søe Lytken Jensen*
10.15 – 10.30		Implementation of national guideline on diabetic foot care – region of southern Denmark *Knud Bonnet Yderstræde*
10.30 – 10.45		Challenges and opportunities when recording of foot data *Anne Rasmussen*
10.45 – 11.15		Coffee, exhibition and posters
11.15 – 12.40		HANDS-ON WORKSHOPS (2X40 MIN.) Participate in two different workshops - each with a duration of 40 minutes
11.15 – 11.55 & 12.00 – 12.40	Lundsgaard auditorium	Workshop B: Vascular assesment *Pirkka Vikatmaa*
	Haderup auditorium	Workshop C: Casting offloading and preventive shoe wear *Agneta Carlsson*
	Hannover auditorium	Workshop D: Quality monitoring and registers *Kristien Van Acker*
	Room 20.1.24	Meeting Steering Committee
12.40 – 14.00		Lunch, exhibition and posters
14.00 – 14.45	Lundsgaard auditorium	Woundcare-Circle Symposium: An algorithm for modern off-loading... And not only *Dott Giacomo Clerici*
14.00 – 14.45	Hannover auditorium	BONESUPPORT Symposium: Surgical management of diabetic foot infection *Alex Wee FRCS*
14.45 - 15.45	Lundsgaard auditorium	FUTURE PERSPECTIVES OF DIABETIC FOOT CARE Chair: Vesa Juutilainen
14.45-15.05		HBOT *Magnus Löndahl*
15.05-15.25		Advanced therapies: new perspectives in diabetic foot *Jan Apelqvist*
15.25-15.45		Biofilm *Trine Rolighed Thomsen*
15.45-16.15		Coffee, exhibition and posters

Thursday 6 October continued

Time	Place	Subject
16.15 – 17.35		HOW DO WE MOVE ON TOWARDS IMPLEMENTATION OF BEST PRACTICE DIABETIC FOOT CARE IN THE NORDIC COUNTRIES
		NDF Task Force National Working Groups: Strategies to pursue national implementation of clinical guidelines
16.15 – 16.25		Sweden *Magnus Löndahl*
16.25 – 16.35		Norway *Tore Julsrud Berg*
16.35 – 16.45		Finland *Vesa Juutilainen*
16.45 – 16.55		Denmark *Klaus Kirketerp-Møller*
16.55 – 17.05		Iceland *Tómas Þór Ágústsson*
17.05 – 17.35		Follow-up and panel debate: expectations and challenges of the NDF country strategies
17.35		End of Nordic Diabetic Foot Symposium

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Acility

Acility / Mediq is a major player in global healthcare. Every day we improve the lives of millions of people. We provide medical devices and care solutions. At home, with GPs, at hospitals or other care institutions.
The SNAP™ Therapy System combines the simplicity of advanced wound dressings with the proven benefits of negative pressure therapy.

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Silverlon® bactericidal dressing range are cost effective and permanent coated with metallic silver, has the highest Ag ion release above the Mic's needed to eradicate all pathogens without residuals, Silverlon ® dressing are indicated for all infected ulcerations on a Safe, Simple an Strong way.

Biotec BetaGlucans

Biotec BetaGlucans develops and manufactures immune modulating compounds for the human health sectors, focusing on Woulgan® Bioactive Beta-Glucan Gel, a primary dressing for stalled wounds. More information can be found at www.woulgan.com

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BONESUPPORT™ manufactures the bone graft substitutes CERAMENTTM|BONE VOID FILLER, CERAMENT™|G (gentamicin) & CERAMENTTM V (vancomycin). CERAMENT™ is proven to remodel into bone in 6-12 months and has been used in more than 25,000 patients.

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BSN medical is a global leader in the worldwide healthcare market specialising in the areas of Compression Therapy, Wound Care and Orthopaedics. We are focused on the development of world-class branded products that offer high quality solutions for our caregivers and patients. BSN medical connects its broad portfolio in Wound Care & related Vascular Diseases, Lymphology and non-invasive Orthopaedics with strong technological competencies to meet the market's need for reduced complexity and more efficient treatments.

Chemviron Carbon Cloth Division

Chemviron Carbon produces Zorflex® dressings. Zorflex accelerates wound healing by entrapping and killing microbes, manages odour and modulates wound protease levels, and is indicated for use with all wound types, including diabetic ulcers.

Coloplast

Coloplast develops products and services that make life easier for people with very personal and private medical conditions. Working closely with clinicians and the people who use our products, we create solutions that are sensitive to their special needs.

ConvaTec

ConvaTec is a global company focused on products, which provides clinical and economic benefits including infection prevention and improved patient outcomes, within advanced wound care, ostomy care, continence and critical care and infusion devices.

Company presentations

JHInova

JHinova focus is to present the best and most functional orthoses for treatment of diabetic patients. Our walker NovaWalk Is one of the lightest on the market and very easy to walk with thanks to the low profile of the rocket sole. Welcome to our booth!

K-LASER Scandinavia

K-LASER - The Cube 4 PLUS can emit up to 20 Watts of power and features 4 wavelengths. Effects related to the inhibition of bacterial proliferation and to the increase of the cell growth allow to achieve excellent results in the healing of diabetic and vascular ulcers.

New Feet

New Feet is a Danish manufacturer of footwear solutions for treatment and care for diabetic and sensitive feet.
The team behind is a mix of orthopedic shoemakers, podiatrists, bandagists and shoe production specialists.
More info at www.new-feet.com

Otivio

Otivio provides FlowOx™, a system for improving blood flow to limbs with poor circulation. The device is used 1-2 hours a day at home while seated. Preliminary data demonstrate improved healing of ischemic wounds, significant reduction in pain while increasing ABI after 4-8 weeks use.

Perimed

PERIMED is a global provider of diagnostic solutions for patients with peripheral vascular diseases and complex diabetic foot ulcers.
Our new PeriFlux 6000 offers a unique combination of tests: ABI, toe pressure and transcutaneous oximetry (tcpO2).

Podartis

Podartis has more than 20 years of experience and study on the foot diseases: we propose a complete line of clinically and biomechanically tested products focused on the treatment of foot pathologies: We also developed a protected physical activity line.

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Woundcare-Circle

The 3 Woundcare-Circle founders, OPTIMA, Heelift and DARCO are international market leaders providing innovative product solutions. The group permanently supports research & science as well as the advancement of foot disease management.

Abstract overview

No	Title	Presenting author
1	Percutaneous Needle Toe Flexor Tenotomy of Hammer, Mallet and Claw Toes in the Diabetic Patient	Jonas Hedegaard Andersen
2	Telemedicine - a treatment supplement for the most diseased diabetics with foot ulcers	G. Glargaard
3	CHRONIC FOOT ULCERS: Revascularization of diabetic and non-diabetic patients	Gabriela Lladó Grove
4	Re-organized inpatient care saves legs in patients with diabetic foot infections	Jorma Lahtela
5	Continuous use of a sealed shoe to off-load and heal diabetic forefoot ulcers – a feasibility study	Gustav Jarl
6	The orthotic management after Chopart amputation in diabetic patients	Roberto De Giglio
7	Adherence to wearing therapeutic shoes among people with diabetes: a systematic review	Gustav Jarl
8		

Abstracts

[1] Percutaneous Needle Toe Flexor Tenotomy of Hammer, Mallet and Claw Toes in the Diabetic Patient

Jonas Hedegaard Andersen[1], Sine Hangaard[1], Klaus Kirketerp-Møller[1], Anne Rasmussen[1]
[1]Steno Diabetes Center A/S, Gentofte, Denmark

Aim: Diabetic foot ulcer is a costly complication, prevention and prompt treatment is important to reduce the risk of infection, minor and major amputations.

The aim of the study was to examine the effectiveness of a modified minimally invasive flexor tenotomy technique performed with needle, to prevent and heal toe ulcers in diabetic patient with claw, hammer and mallet toe deformities, seen in our multidisciplinary outpatient clinic.

Method: Patients referred from podiatrist to orthopedic surgeon between 17Th Feb. 2015 and 23Th Feb. 2016 that underwent percutaneous needle tenotomy of the deep and superficial flexor tendons of the toes. The surgical procedure was performed in local anesthetics. The tenotomy was Performed with a needle, with a diameter of 1,2 mm, and length of 40mm. The needle was introduced through the skin immediately proximal to the web level, in the toe chosen for tenotomy, corresponding to the placement of the deep and superficial flexor tendons. All patients were offered therapeutic sandals and seen at 2 and 7 days post intervention.

Results: 42 patients had 135 toes treated by percutaneous tenotomy, 16(12%) toes with ulcers and 119(88%) toes with impending ulcerations were treated. Average age was 66.02 years (41-89 years), 30 (71%) were males, diabetes duration was 24,69 years (6-70 years), 28 patients had type 2 diabetes (66,6%), BMI was 29,9 kg/m^2 (18,9-41,6 kg/m^2), HbA1c 63,23 mmol/mol (33-96 mmol/mol), total cholesterol 4,7 mmol/L (1,4-9,4 mmol/L) and blood pressure 135/75 mmHg (97-200/56-96 mmHg), 4 patients were smokers (10%). Total loss of vibration sense (>50 volt) was seen in right 57% and left foot 55%, palpable foot pulses were present on right foot in 36 patients (86%) and 38 on left foot (90%). Retinopathy was present in 5 patients (12%). Ualbcrea ratio was 92,4 (3-920)

All surgical incisions healed uneventfully 41 patients after 2 days (98%), and one patient after 7 days (2%). No complications, e.g. bleeding or pain were recorded. There were 12 neuropathic (75%), 3 neuro-ischemic (19%) and 1 ischemic ulcer (6%). The duration of ulcer before tenotomi was 6,5 weeks (1-26 weeks), all ulcers (16) healed in the observation period ,in a mean of 24 days (2-105 days). There was no recurrence of toe ulcer in the period. No infection were recorded and no amputations performed due to the procedure. Eight patients had transfer complication (19%), with a total of 12 toes affected. 4 toes had transfer ulcers (33%), and 8 incurred pressure signs (67%) after the primary tenotomy. One patient underwent re-tenotomy due to insufficient primary procedure (2%). Mostly the tenotomy was performed on right foot 90 toes (67%). The tenotomies performed were distributed on: first toe 22 (17%), second toe 37 (27%), third toe 34 (25%), fourth toe 23 (17%) and fifth toe 19 (14%). 6 patients (14%) needed assistance from home nurse to change the dressing or wound observation after the procedure. 28 patients (67%) were treated with handmade shoes with rocker bottom to prevent future ulcers.

Conclusion: Needle tenotomy is a simple, safe and effective procedure for preventing and/or treating ulcers of claw, mallet and hammertoe deformities in diabetic patients. This off-loading surgery should be offered all patients at risk of ulcers of a hammer, mallet or claw toe. The procedure can result in transfer ulcers if not performed on all toes of one foot at same primary intervention. Flexor tendon tenotomy of the first toe can present a challenge, likely due to the caliber of the tendons, and relation to the sesamoids. The follow-up period was relatively short, and further investigation is needed, and will be carried out at our center.

[2] Telemedicine - a treatment supplement for the most diseased diabetics with foot ulcers

G. Glargaard[1], P.Christensen[1], B. Dashnaw[1], A. Høgh[1]
[1]Viborg wound clinic, Department of Vascular Surgery, Viborg Regional Hospital, Viborg, Denmark

Background/objective: The Wound Clinic at Viborg Regional Hospital, Denmark is adopting telemedicine into the clinical everyday life. By this study, we wish to clarify if there are differences in basic descriptive characteristics among patients with diabetic foot ulcers (DFU) regarding the use of telemedicine (+TM/-TM) as a supplement to visits in the Wound Clinic.

Method: During 2015, 106 DFU patients were primarily referred to the Wound Clinic. Data was collected retrospectively from patient records and telemedicine data, respectively.

Results: 80(75%) had +TM in addition to Wound Clinic visits, whereas 26(25%) only had Wound Clinic visits. In general at baseline, +TM was characterized by a higher prevalence of co-morbidities and a higher rang of advanced diabetic treatment (see table); +TM had more Wound Clinic visits and more hospital admissions, compared to the –TM group. Furthermore, more minor amputations were observed among +TM, while no difference was seen regarding major amputation. 10(13%) +TM died compared to 5(19%) -TM.

Discussion: We suggest that telemedicine provides a treatment security for all patients with DFU. This study shows that the +TM cohort represent the most exposed group in a known high risk population. Telemedicine is an effective monitoring tool when in combination with Wound Clinic visits.

(abstract continues on the next page)

Table 1: Patient demographics and clinical characteristics

			Total (n=106)
		-TM (n=26)	+TM (n=80)
Male		15 (58%)	60 (75%)
Age, years		68 ± 3	69 ± 1
Co-morbidities at baseline	Myocardial infarction	2 (8%)	11 (14%)
	Stroke	2 (8%)	11 (14%)
	COPD	3 (12%)	13 (16%)
	AFLI	2 (8%)	16 (20%)
	Chronic kidney disease	3 (12%)	24 (31%)
Previous referrals to the Wound Clinic		10 (38%)	41 (51%)
Previous vascular surgery		3 (12%)	16 (31%)
Previous amputation	Minor	4 (15%)	18 (23%)
	Major	0 (0%)	6 (8%)
	Combination	0 (0%)	2 (3%)
Diabetes control	Patient	1 (4%)	4 (5%)
	GP	19 (73%)	41 (51%)
	Endocrinologist	6 (23%)	34 (43%)
	Unknown	0 (0%)	1 (1%)
Diabetes treatment	None/diet/exercise	1 (4%)	4 (5%)
	Oral antidiabetics	14 (54%)	19 (24%)
	Insulin	4 (15%)	32 (40%)
	Combination	7 (27%)	25 (31%)
Wound Clinic visits during 2015	≤5 visits	23 (88%)	51 (64%)
	>5 visits	3 (12%)	29 (36%)
Hospital admission during 2015	0 admissions	21 (81%)	51 (64%)
	≥1 admission(s)	5 (19%)	29 (36%)
Vascular surgery during 2015		3 (12%)	14 (18%)
Amputation during 2015	Major	2 (8%)	4(5%)
	Minor	2(8%)	11 (14%)
Death during the period 01-01-2015 - 12-08-2016		5 (19%)	10 (13%)

Values are presented as number (%) or mean ± SD.

[3] CHRONIC FOOT ULCERS: Revascularization of diabetic and non-diabetic patients

Gabriela Lladó Grove[1], Sigitas Urbonavicius[1], Annette Høgh[1]
[1]Department of Vascular Surgery, Viborg Regional Hospital, Viborg, Denmark

Objective: Patients requiring vascular reconstruction form a high-risk population for developing chronic foot ulcers; a sizeable part of these patients are diabetic.

We aimed towards descriptive characteristics of patients revascularized on the basis of chronic ischemic foot ulcers, comparing the diabetic patients(+DM) to the non-diabetic(–DM).

Method: A retrospective observational study of all patients with chronic ischemic foot ulcers submitted to vascular reconstruction at the Department of Vascular Surgery, Viborg (June 2013–November 2014). Data was collected from patient records; follow-up on major amputation and mortality was up to 1 year after revascularization.

Results: A total of 702 patients required vascular reconstruction; 228(32.5%) had chronic foot ulcers as indication for surgery, of which 98(43.0%) were diabetic.

Table I. Patient characteristics stratified by diabetes (+/–DM), n=228

	+DM (n=98)	–DM (n=130)	P-value
Male gender	59(60.2%)	64(49.2%)	0.10
Mean age (range)	73.3(49.8–97.8)	75.8(23.6–92.0)	0.07
Mean BMI (range)	26.3(15.6–42.4)	22.8(13.2–35.2)	0.00
Operation level			
Central	22(22.4%)	46(35.4%)	0.04
Peripheral	76(77.6%)	84(64.6%)	
Operation type			
Endovascular procedure	69(70.4%)	72(55.4%)	0.02
Open surgery	29(29.6 %)	58(44.6%)	

Within the 1st postoperative year, 16(16.3%) died and 31(31.6%) had major amputation in the +DM group versus 20(15.4%) and 32(24.6 %) in the –DM group, respectively($p>0.05$).

Conclusion: The amount of patients with chronic foot ulceration as indication for vascular reconstruction is considerable, and diabetics are highly represented within this population. Of significance, both the proportion of peripheral and endovascular procedures were greater within the +DM group. We found no significant differences between +DM and –DM patients regarding mortality nor major amputation.

[4] Re-organized inpatient care saves legs in patients with diabetic foot infections

MA Laakso[1], I Kaartinen[1], M Honkasalo[1], J Kiiski, M Ala-Houhala[1], H Haapasalo[1], H-J Laine[1], J Lahtela[1]
[1]Tampere University Hospital, Tampere, Finland

Aim: To evaluate the effects of re-organizing inpatient care and implementing multi-disciplinary wound department at an academic tertiary hospital in Finland.
Methods: We conducted a retrospective, observational before and after study, consisting of patients treated for diabetic foot infections. Two cohorts were evaluated, one during years 2006-7 and the other years 2013-4. Between those years the inpatient care of all chronic wounds was organized at a single wound department with a multi-disciplinary team.

Results/Discussion: Altogether, 272 patients with diabetic foot infections were treated during the study periods (124 in group 1 and 148 in group 2). There was a 19 % increase in the incidence of hospitalized patients over a period of 7 years. Below-the-knee amputation rate was significantly lower in group 2 (n=14, 9.5 %), compared to group 1 (n=32, 25.8 %), $p<0.001$. The median time from admission to surgical intervention was reduced from five to two days. The mean length of hospitalization was shorter in group 2 (8 days vs. 12 days).

Conclusion: Our findings showed the benefits of treating hospitalized diabetic foot infections at a specialized in-patient wound department with a multi-disciplinary team. Furthermore, the benefits were achieved by merely distributing the workload and organizing schedules, instead of the utilization of new investments or methods. The findings confirm that patients with diabetic foot infections present a challenge which is beyond the expertise of a single field of medicine. A working collaboration between disciplines and a specialized wound department are central in achieving better results.

[5] Continuous use of a sealed shoe to off-load and heal diabetic forefoot ulcers – a feasibility study

Jarl G.[1,2], Tranberg R. [3]
[1]Department of Prosthetics and Orthotics, Faculty of Medicine and Health, Örebro University, Örebro, Sweden
[2]University Health Care Research Center, Faculty of Medicine and Health, Örebro University, Örebro, Sweden
[3] Department of Orthopaedics, Institute of Clinical Sciences, the Sahlgrenska Academy at University of Gothenburg, Gothenburg, Sweden

Introduction: Non-removable knee-high devices are the gold standard to off-load and heal diabetic forefoot ulcers but are not frequently used in clinical practice.

Aim: To investigate the feasibility of using a therapeutic shoe, rendered irremovable, to off-load and heal forefoot ulcers.

Method: 7 men with diabetes type 2, sensory neuropathy and a metatarsal head ulcer since 0.3-4.7 years (median 1.0) were prescribed therapeutic shoes and custom-made insoles adjusted to off-load the ulcer. Off-loading was assessed with F-scan system. The shoe was sealed with a plastic band and worn day and night. Adherence was assessed by documenting the status of the seal (intact/broken) when changing dressings on the ulcer.

Results: All ulcers healed in 1-23 weeks (median 8). Average peak pressure on the ulcer was 118.4 kPa (sd. 47.6) when walking with the shoe. The seal was respected by 5 of 7 subjects. Complications were secondary ulcer (n=1) and plantar hematoma (n=1). The most common complaint was difficulty to dress.

Discussion: Sealing a therapeutic shoe seems to be a feasible way to off-load and heal forefoot ulcers. This is an interesting avenue for future research as sealed shoes include some of the advantages of non-removable knee-high devices (effective off-loading, high adherence) and overcome some of the disadvantages that limit their clinical use, e.g., restricted mobility. Also, a sealed shoe might be a more attractive alternative in low- and middle income countries since no special technical expertise is needed and the same device can be used to prevent and heal ulcers, limiting costs.

[6] The orthotic management after Chopart amputation in diabetic patients

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One of the greatest difficulties in diabetic patients undergoing amputation Chopart in the after surgery appears to recover the walk, waiting for a shoe or a customized brace, the realization of which for various reasons can take from one to three months. It is difficult even find devices that protect the patient not only outside the home, but also while walking in own home. The application of a total contact cast is not always usable for problems related to the wound and or to the patient.

Method: In this work enrolled 12 diabetic patients (8 males and 4 females) who underwent a unilateral Chopart amputation for various reasons (Chopart bilateral amputations was not considered). In the postoperative phase, exactly within the first two months after surgery, we evaluated the possibility of the devices used by patients to walk by dividing them into two groups: in GROUP A (6 patients) was given the use of a brace leg-foot pneumatic pre-format dedicated to Lisfranc, and, Chopart amputations (called BODY ARMOR PRO TERM), while in group B (6 patients) was prohibited the load until the construction of a cast customized. The duration of observation was 60 days.

Results: In GROUP A we have observed, in the study period, no harmful event with the tutor BODY ARMOR PRO-TERM. Patients included in this group reported a greater comfort, without any difficulty in walking on level straight, but also up and down the stairs. In GROUP B we observed a case of re-opening of the surgical wound, the occurrence of 3 ulcerative lesions in two patients, respectively one in an Achilles region area, one in a plantar area of the heel and one re-ulceration in the lateral portion of the fifth finger.

Conclusions: In our experiences the BODY ARMOR PRO-TERM is the indispensable device for shooting the load early in patients with Chopart amputation, both at home and outside of it. The BODY ARMOR PRO-TERM is joined the protocols of our department for the management of Chopart amputations. It would undoubtedly be an extension of trials and biomechanical investigations that include the study of the kinetics and kinematics in order to collect more precise parameters on different devices off-loading in order to assist the clinician in selecting the most appropriate orthosis.

[7] Adherence to wearing therapeutic shoes among people with diabetes: a systematic review

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Introduction: International guidelines recommend the use of therapeutic shoes to prevent diabetic foot ulcers but adherence to wearing them is often poor.

Aim: To review the literature on factors that are associated with adherence to wearing therapeutic shoes and construct a model to aid our understanding of adherence.

Methods: We conducted a systematic search in PubMed, CINAHL, and PsycINFO for quantitative studies on factors associated with adherence to wearing therapeutic shoes among people with diabetes.

Results: We identified 6 studies. They focused mainly on factors related to the patient, therapy and condition. There is some evidence (3-5 studies) that sex, diabetes duration, and ulcer history are not associated with adherence. The evidence for or against other factors was weak (1-2 studies) or conflicting.

Discussion: There is currently no conclusive evidence for using any factor to predict adherence to wearing therapeutic shoes but there is some evidence against using certain factors as predictors. We recommend that future studies should include a broader range of factors, e.g., factors related to the health system and the patient's social och economic circumstances, and investigate perceived costs and benefits of wearing therapeutic shoes in direct comparison with wearing other shoes or no shoes. A seesaw model of adherence was constructed to visualize how patients' perceptions affect adherence (see fictive patient case in fig. 1). Hopefully, the model can aid our understanding of the multifaceted and complex phenomenon of adherence and stimulate future research and development in the field.

Reference: Jarl G, Lundqvist LO. Patient Prefer Adherence. 2016;10:1521-8.

(abstract continues on the next page)

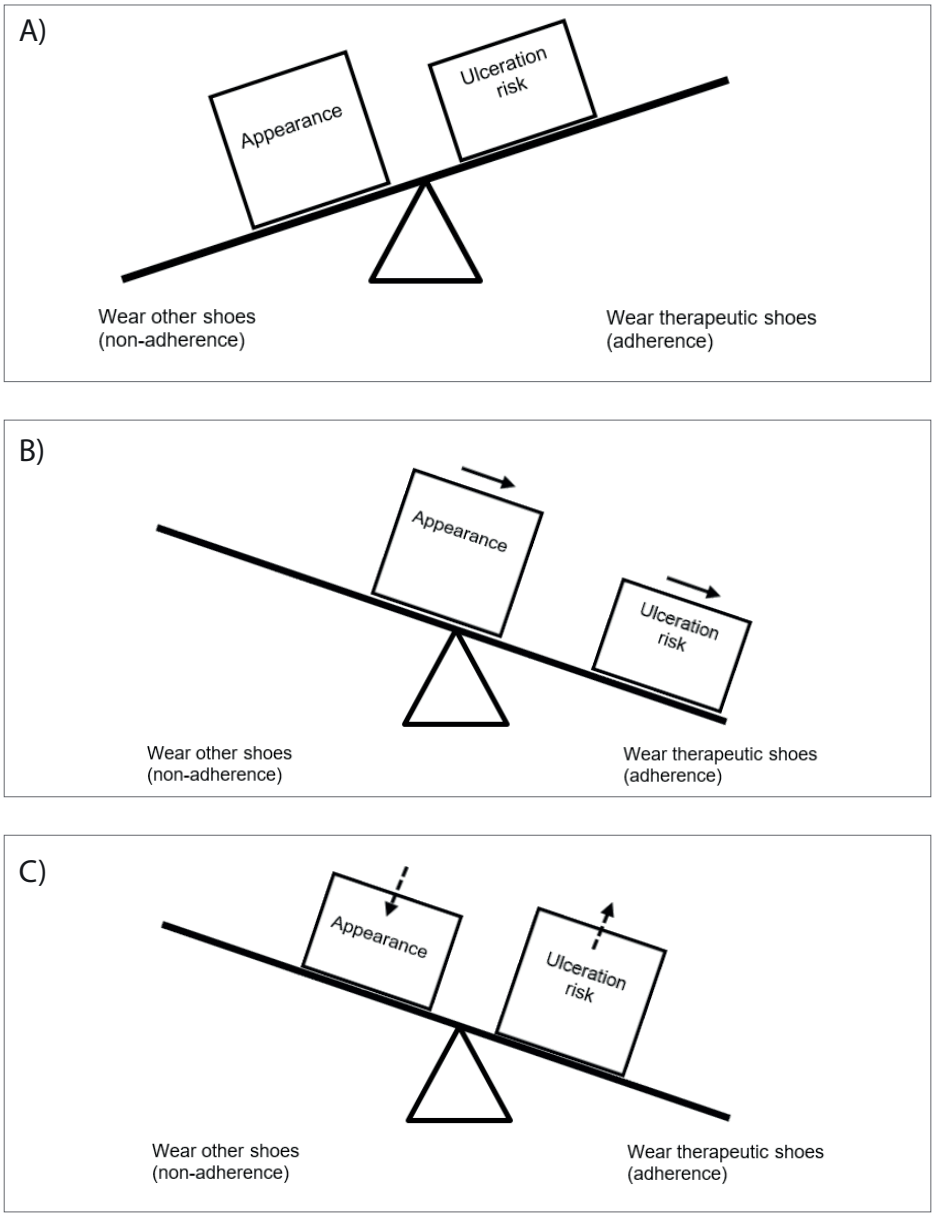

Figure 1. The seesaw model of adherence. (a) A patient believes that therapeutic shoes reduce ulceration risks somewhat compared to other shoes, but he dislikes their appearance, a factor he gives more weight to (larger box), resulting in low adherence. The patient's adherence can be improved by: (b) improving shoe appearance and convincing him that therapeutic shoes reduce risks substantially (change box positions) and/or (c) supporting him to reprioritize appearance and risks (change box sizes).

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