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Indications and use of felt adhesive as temporary offloading of the foot with an active ulcer or wound.

validated nursing procedure

Indications and use of adhesive felt as a temporary offloading for a foot with an active ulcer or wound. Validated nursing procedure

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SUMMARY

Introduction: Offloading devices are an essential part of the prevention and treatment of foot with an active ulcer or wound.

aims to be a consultation and guidance document in nursing care. Objectives: To have a consultation instrument for wound management that helps decision-making

in the indication and elaboration of the temporary offloading devices of semi-rigid adhesive felt. Describe and unify the necessary procedures in

the preparation and adaptation of the semi-rigid adhesive felt integrated into the local management of the foot with an active ulcer or wound. Methodology:

Validation: Nine experts participated in training, teaching and clinical practice nurse in the care of wounds.

the score given on Likert type questionnaire relevance to the monitoring indicators for felt offloading by means of Lawshe formula. Consistency and reliability for the content validity of the procedure using Aiken V and Cronbach α .

Results: Monitoring: From 23 indicators to be evaluated, 6 < 0.78 (4 of the adhesive felt and 2 of the self-care were eliminated). In 9 indicators, they reached the maximum score (7 related to the felt and 2 in self-care).

Cronbach was 0.89 (95% CI: 0.891 [0.744-0.971]; $p < 0.001$). The consistency of the procedure was 0.93, correlation index of 0.79-0.96. Conclusions: The results are sufficient to consider validated the procedure.

to recommend its implementation.

KEY WORDS: offloading devices of the foot, adhesive felt, procedure, care plan.

ABSTRACT

Introduction: Offloading is a fundamental component of the prevention and treatment of foot ulcers or active wounds. This procedure is intended as a reference and guidance document for nursing care. **Objectives:** To provide a reference tool for nurses in wound management that will assist in decision-making regarding the indication and preparation of temporary semi-hard adhesive felt offloading. To describe and standardize the procedures required for the preparation and adaptation of semi-hard adhesive felt as part of the local management of foot ulcers or active wounds. **Methodology: Validation:** 9 experts in nursing training, teaching, and clinical practice in wound care participated. The scores given on a Liker-type questionnaire were independently evaluated for relevance to the felt offloading monitoring indicators using the Lawhen formula. The consistency and reliability for the content validity of the procedure were evaluated using Aiken's V and Crombach's α . **Results: Monitoring:** Of 23 indicators to be evaluated, 6 were eliminated with scores < 0.78 (4 for adhesive felt and 2 for self-care). Nine indicators achieved the maximum score (7 related to felt and 2 for self-care). **Procedure:** The adjusted reliability using Crombach's α was 0.89 (95%CI: 0.891 [0.744-0.971]; $p < 0.001$). The consistency of the procedure was 0.93, correlation index (0.79-0.96). **Conclusions:** The results are sufficient to consider the procedure validated. Applicability studies will be necessary to recommend its implementation.

KEYWORDS: Foot offloading, adhesive felt, procedure, treatment plan.

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Introduction

It is estimated that 80% of amputations in the foot are preceded by an ulcer, of which 70% are treated by nurses. The management of the diabetic foot (PD) requires specific training included in the nursing care competencies.^{1,2} Due to the complexity of the PD, the figure of the nurse should lead the prevention of PD by reducing referral time to specialized services.^{3,4}

PD lesions should be treated on the basis of the TIMERS wound assessment and management tool, a process to promote wound healing. In this process, temporary offloading of the foot is an essential part of the treatment.^{5,6}

Offloading devices are intended to avoid direct pressure on the ulcerated area while maintaining the balanced foot while maintaining the greatest possible autonomy of the person. Due to their functionality, offloading devices can be grouped into temporary or permanent ones.

- Provisional. Applicable during the healing process of the injury by reducing the healing time. They may be:

- Fixed: their adaptation prevents the voluntary manipulation of the sona (gypsum splints, resin or prefabricated walker with fixed closure system).
- Removeables: can be removed by the person. Its effectiveness,

requires compliance by the person (walker type prefabricated, silicone orthosis, plantar supports, adhesive felt, footwear (therapeutic or postoperative)).

- Permanent. Specialized surgical interventions, indicated for the correction of structural deformities of the foot by modifying the points of maximum pressure and distribution of plantar pressures permanently (osteotomy, arthrodesis, tenotomy), are usually complemented by other offloading fixed or removable devices.⁷⁻¹⁰

Offloading devices can be applied as an adjuvant or preventive treatment of foot with an active ulcer or wound.

- Adjuvant: counteracts the determinant of the injury by reducing the healing time. They may be temporary or permanent.
- Preventive: reduce the risk of ulceration and recurrences. They may be removable or permanent.⁷⁻¹⁴

Given the complexity of the PD, the Nurses have the need to have advanced knowledge and have instruments that help to make decisions about the choice of different offloading devices depending on the scope of action, availability of materials, ability to handle and characteristics of the person to be treated.^{8,9,11-14}

Among the different offloading devices as adjuvant treatment of PD with ulcer or active wound, is the semi-rigid adhesive felt, considered as the third option of offloading. Due to its availability and cost-effectiveness, it can be applied in any care area, and is of first choice in primary care.¹⁻¹⁵

In this document, the PD is included in the definition of foot with an active ulcer or wound. By this we extend the use of felt to other types of ulcer or wounds suitable of adjuvant treatment with this type of Offloading to shorten the healing time.¹⁶

This document is aimed at nurses with clinical practice in the care of wounds in any care environment. It is intended to be an instrument of consultation on indication, techniques of preparation, adaptation and effectiveness of the temporary offloading devices of felt as adjuvant treatment of the foot with an active ulcer or wound.

The contents of the document do not replace the clinical judgement of the healthcare professional responsible for nursing care in the management of the foot with an active ulcer or wound.

OBJECTIVES

- Main. To have a consultation tool for nurses in the management of wounds that helps in the decision-making in the indication and elaboration of the temporary offloading devices of semi-rigid adhesive felt as adjuvant treatment of the foot with an active ulcer or wound.
- Specifics. Describe and unify the necessary procedures in the elaboration and adaptation of the semi-rigid adhesive felt integrated in the care nursing care plan of the foot with an active ulcer or wound.

Establish an orderly data collection to monitor the use of semi-rigid adhesive Felt temporary offload associated with the process of healing the foot with an active ulcer or wound.

METHODOLOGY

Appropriate nursing care plan

For the assessment of the lesions, descriptive and specific scales of the wound are used. Their use will be determined by the presence or absence of consensus in the referral criteria to specialized consultation.

These are preferred hospital referral criteria, documented suspicion of osteomyelitis, suspected acute arthropathy of Charcot and, urgent, if you have generalized sepsis or high risk of amputation due to infection or severe ischemia.¹⁷⁻¹⁹

The person must refer to specialist consultation as early as possible according to referral requirements indicating the time of evolution, prior treatments and, if possible, a recent neurovascular evaluation.

If the lesion does not present referral criteria, the case is assumed in primary care or socio-sanitary center following the TIMERS tool in the local wound care of the foot with an active ulcer or wound, maintaining the usual hygienic and protective measures and including the semi-rigid adhesive felt as temporary offloading device.^{4,5,12-14}

It would be desirable to include monitoring of offloading along with personal data, description of injury and health education on self-care.^{11,20-25}

Felt offloading is usually applied as an adjuvant treatment of neuropathic or neuroischemic PD in the absence of other more advanced offloading devices.¹⁷ Although, due to its effectiveness in reducing pressures in the area of injury and its equity in the availability of felt, it may consider its use in the treatment of the foot with other types of ulcers or active wounds.^{10,11,14,26-28}

During the duration of treatment, consideration should be given to compensating for the counterlateral limb asymmetry caused by the bulk of the felt and the postoperative footwear.¹⁵

General characteristics of felt

Currently there are 2 types of composition: sheep wool and viscose fibers or polyester fibers. Both types have a hypoallergenic aqueous adhesive that allows a firm adherence to the skin of the person.

They are available in several thicknesses, from 1 to 12 mm. They are presented in sheets of 30 × 20 cm, in rolls of 12 × 200 cm and in rolls of 30 × 100 cm.

In the preparation of the offloading it will be necessary a marker (marker or pen), strong scissors and training.

- Advantages of felt: it avoids direct pressure on the ulcer; it allows the temporary redistribution of foot pressures favoring wound healing; better acceptance of the person than devices to the knee; it can be combined with other materials and offloading devices; it is adaptable to different areas of the foot; it can be added several layers or reduced the thickness by partial peeling of the felt.
- Inconvenient: time spent on making it; loss of thickness with use; frequent changes (in each cure); required securing bandage and appropriate footwear; essential previous training; strong adherence to treatment by the person.
- Contraindications: presence of ulcers or complex wounds with high risk of amputation (severe or critical ischemia, serious infection with need for debridement); adhesive allergy; patient non-compliance; acute rheumatoid arthritis.

Making of offloading with semi-rigid adhesive felt

For greater effectiveness, the etiology, trigger factor, foot location, weight and level of activity of the person must be considered.

The offloading must cover the part of the foot where the injured area is located^{8,10,12}. It must have an opening in the felt adjusted to the area of the ulcer or wound in the form of U to avoid the edema of window. In the plantar offloading devices, the opening in U must be oriented from the proximal part to the distal. In the internal and external arches of the foot, the openings must be oriented towards the outside of the foot. Those located on the back of the fingers can have openings and those located in finger point or interdigital spaces, do not need opening.

It should keep the foot balanced in static load (bipedestation) and dynamic (walking), preserving as much autonomy as possible of the person.

Table 1 presents orientation values of the thickness and indications of the felt depending on the location of the lesion in the foot and the trigger factor.

Control of Felt Offloading Devices

Figure 1 illustrates the order for the preparation and adaptation of felt offloading. The following order should be maintained:

- Pattern: the amount and thickness of the felt needed to make the offloading depending on the type of injury, location, weight and activity of the person. It must cover the injured foot area extensively (Table 1).
- Design: shape that is given to the pattern according to the need to neutralize the trigger factor of the injury. With the lesion clean and without touching the surface of the lesion, approximate the pattern to the injured foot area on the side of the felt protector. On the felt draw with a marker the area of the lesion, delimiting its edges by a U-shaped opening to avoid window edema.
- Bisealado: perimetrically reduce the edges of the felt design on the 3-12 mm thick ones, including the opening area of the lesion. The bevelled is achieved by placing the scissors at 45° on the edge of the design.

Its purpose is to reduce the vertical pressure on the edge of the felt and obtain a better adaptation to the foot and footwear.

- Adaptation: with the primary and secondary dressings adapted and fixed on the skin, remove the gloves used in the healing of the lesion. Mark the perimeter limits of the lesion on the secondary dressing. Remove the felt protector and adapt it to the foot area where the lesion is seated, ensuring that the opening in U is located between 2-4 mm from the marked edges of the lesion. A greater non-offloading distance, and a smaller one, causes pressure on the edge of the lesions. The final thickness applied must exceed the height of the secondary dressing by 3-6 mm, to ensure an effective offloading due to loss of thickness by compression of the felt during its use.
- Effectiveness: before proceeding with the fixing of the offloading, assess the effectiveness of the offloading in order to check whether the total thickness of felt applied will be sufficient to avoid direct pressure on the area of the injury in the foot.^{25,26} There are different systems to assess the effectiveness of the offloading.
- Manual (subjective): it consists of making a pressure with both hands of the nurse on the felt and the foot of the person exercising, with one hand, a perpendicular force against the felt and, with the other, counter, exerting pressure in the opposite direction on the foot. If the secondary dressing exceeds two thirds of the thickness of the felt, the applied thickness may be insufficient to achieve an effective offloading, so it is recommended to add a new layer sufficiently thick so that, repeating the maneuver, the secondary dressing remains one third of the total thickness of the felt without producing an overload of the area.
- Planting pedigraphy (objective): it consists of obtaining an image of the plantar footprint with the offloading in bipedestation or sitting by exerting a plantar pressure on the ground. There are several methods:

- Peditraf: manual disposable print system of the planar using charcoal paper on a white background.
- Pedigrapher: Reusable handprint printing system

plant in charge by printing ink on white paper. In both systems, the ulcerated area with the secondary dressing should not be marked on the plantar footprint, this confirms the correct application of the offloading.

- Podoscope: direct vision of the plantar footprint reflected in a mirror.

It requires the person to get on the device (mounted from the floor between 35-45 cm) and remain stable for at least 30 s. In the reflected footprint, the secondary dressing should not be marked with the delimitations of the lesion.

- Plantar pressure platform (baropodometry, target and how much-

The effectiveness of of offloading is assessed by means of pressure homogeneity in the area of the felt with no pressure in the area of the lesion without producing excessive pressure points in other areas of the foot by measuring the amount of pressure planted in kilopascals. It can be evaluated in static and dynamic without footwear⁹⁻¹².

In interdigital ulcers, back of the foot lesions or maleols, the effectiveness of of offloading must be checked using the manual system.

If the effectiveness of of offloading is considered doubtful, a thickness of between 3-8 mm can be added while maintaining the same design and surface of the offloading.

In the plantar offloading devices of forefoot, if the total thickness of felt exceeds 9 mm, it should be considered to place a felt heel of between 4-6 mm, thus reducing the pressure on the retrofoot maintaining the foot balanced for greater comfort of the person.

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Table 1. Guidance values in the preparation of the temporary offloading of semi-rigid adhesive felt in the foot with an active ulcer or wound by location and trigger factor

Location	Thickness (mm)	Most common trigger	Pattern: felt quantity	Design: offloading shape	Accessories	
					Securing	Footwear
Interdigital	3-5	Inadequate footwear	Pattern: – Long, 0.3-0.6 cm	Design: Rectangular (interdigital and plantar).	Not required	Soft sole therapeutic
Dorsum of the toes	5-8	Acquired deformity, inappropriate footwear	– Long, 0.3-0.6 cm – Width, 0.4-0.6 cm – Thick, 0.3 (interdigital) and 6-12	Rectangular (interdigital and plantar). In claw finger, it can be in horseshoe with opening at the site of injury.	securing bandage	soft sole
Toe tip			– Thick, 0.3 (interdigital) and 6-12 mm in claw finger	with opening at the site of the injury. The proximal deformity must be compensated.	securing bandage	
Plantar surface of the hallux	6-16	Biomechanical alteration, inadequate footwear, wound	Pattern: – Long, from finger tip to 2 cm behind metatarsophalangeal joint 7-12 cm – Width, forefoot width included hallux deformity 8-14 cm – Thick, 8-12 mm	Design: From the tip of the fingers (2.0-5.0) to 2 cm behind the metatarsal heads supporting the forefoot except the first finger	securing bandage	Postoperative with forefoot-relief shoe
Plant metatarsophalangeal joint	6-16	Biomechanical alteration, wound, inappropriate footwear, surgery	Pattern: – Long, from the base of the fingers to half of the metatarsals, between 7-10 cm – Width, the width of the forefoot, including deformity of the hallux 8-14 cm – Thick, 8-10 mm	Design: Herradura with distal opening. From the base of the fingers up to 2 cm behind the metatarsal heads	securing bandage	
Plantar midfoot, Neuroarthropathy of Charcot (Pie de Charcot)	6-15	Bone deformity not compensated with other preventive defloading devices, inadequate footwear, wound	Pattern: split offloading – Long, finger tip to 1/3 metatarsal base (offloading anterior foot) 12-18 cm – Heel, all heel up to 2 cm proximal edge of lesion 5-9 cm (offloading retrofoot) offloading whole: covering the plantar surface from the base of the fingers to the heel – Width, foot width 11-14 cm – Thickness, 8-10 mm	Design: split offloading, with support of the forefoot and backfoot leaving free the area of the injury/s. Whole, with opening in U to the outer side of the foot. Several layers can be added	securing bandage	Flat postoperative footwear
Dorsum of the foot	8-12	Foreign body, wound, pressure injury, inadequate or deteriorated footwear	Pattern: – Length, depending on wound size from 5 to 10 cm – Width, depending on design 1-6 cm – Thickness, 3-6 mm	Design: In horseshoe exceeding 3 cm of the edges of the lesion. Parallel bars exceeding 2 cm of the edges of the lesion	securing bandage	If ambulatory, soft sole therapeutic footwear
Side edge of the foot (external or internal)	6-10	Bone deformity, inadequate footwear pressure injury	Pattern: – Length, 5-18 cm – Width, 6-10 cm – Thickness, 6-10 mm	Design: Beded U opening in the lesion area 3 cm in the dorsal part and 3-4 cm in the planter. If wandering, in horseshoe. Cover the part of the support plant thicker and 3 cm in the dorsal part less thick	securing bandage	

Go on.

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Table 1. Orientation values in the preparation of the temporary offloading of semi-rigid adhesive felt in the foot with an active ulcer or wound by location and triggering factor (cont.)

Location	Thickness (mm)	Most common trigger	Pattern: felt quantity	Design: offloading shape	Accessories	
					Securing	Footwear
Heel face anterior plantar	10-25	Foreign body, burn, surgical wound	Model pattern 1: – Length, 14-18 cm – Width, 8-14 cm – Thickness, 0.8-1 cm	Design: Metatarsal heads to the anterior side of the heel – Height, several layers can be added to compensate for height of the inner arch	securing bandage	Postoperative backfoot relief shoe
Heel plantar center area	0.5-1.2	Calcaneus spur, wound, inappropriate footwear	Model pattern 2: – Length, 5-9 cm – Width, 5-8 cm – Thickness, 0.5-1.2 cm	Design: Shape of horseshoe. The opening can be oriented to both the anterior and posterior sides of the heel	securing bandage	
Lateral or posterior edge heel	10-20	pressure injury (bedding), wound, burn, repetitive microtraumatism on heel spur, shoes with very worn heel	Model pattern 3: First layer – Length, 10-15 cm – Width, 10-12 cm – Thickness, 1 cm Second layer – Length, 10-15 cm – Width, 2-4 cm – Thickness, 1 cm	Design: Inverted T-shaped. It has to cover 3 cm above the insertion of the Achilles tendon, behind the malleoles surround the heel on its side faces. First layer pattern. For the second layer, cover the side sides of the heel	securing bandage	
Maleolo	8-12	PPL, trauma, burn	Pattern: – Length, 8-12 cm – Width, 6-9 cm – Thickness, 0.8-10 cm	Design: In horseshoe. Bordering the malleolus. Thick step by compensating the retromaleal and anterior spaces. Overpass 3.6 mm in height the dressings. Recommended to apply above the secondary dressing (foam)	securing bandage	If wandering, therapeutic soft sole

pressure injury: pressure injury.
Source: own elaboration.

Supplements to the temporary offloading of felt

• Securing bandage: avoids the displacement of offloading with walking or friction in the bed reducing the risk of hyperpressure in other areas of the foot. The securing bandage must cover the entire surface of the felt.

in the forefoot, 2 cm behind the edge of the proximal felt and covering the fingers. If the felt occupies the entire surface of the foot or backfoot, it will be lengthened up to 2 cm above the malleolos. It can be made with cotton bandage, cohesive, crepe or softban without producing compression on the felt. It can be reinforced with elastic mesh on the bandage. • postoperative footwear: made of padded material, without seams, with non-slip sole, with great capacity to accommodate the foot with bandages. Subject to the foot by Velcro, they lack horma (right foot/left foot). It is presented by number of length and is supplied individually. It can be purchased in pharmacies, orthopaedics or internet. Indications according to design: front foot, for before foot injuries;

Heel-relief footwear, in plantar or lateroplantary lesions of the retrofoot; flat, for plantar ulcers per foot of Charcot, and surgical wounds or debridement in the dorsal areas and edges of the foot.

If you consider it necessary to compensate for the symmetry of the limb counterlateral resulting from the postoperative footwear and the total thickness of offloading with securing bandage, will be recommended the use of lifting or heel in the usual contralateral footwear8-10. • Therapeutic footwear: mostly lacking internal seams and with greater capacity than standard footwear. It is mainly considered as offloading preventive device complementary to silicone orthosis, plantar orthosis, anti-equine splints, prosthesis of amputation of forefoot. It can also be used as offloading removeable device adjuvant of lesions located on the back of the foot, fingers (side injuries by hallux valgus, 5o varo)8,10,16. Available in several models by sex, number of foot and pairs with

soft or hard soles in the form of balncin, which facilitate the different phases of the march. It does not need to compensate for asymmetry. They are supplied in specialized orthopedics and shoe stores.

Process of validation of the nursing procedure

A first protocol was developed with 3 domains (professional interest, structure and presentation). A panel of 9 experts with extensive experience in training, teaching and clinical practice on the management of ulcers and chronic wounds was selected.

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Figure 1. Simulation of structured procedure on the indication and use of felt as temporary offloading of the foot with an active ulcer or wound.

each expert independently on the structure of the text, focus and intent (part already made) Their comments were taken into account and adapted in the final text²⁷.

In the second round, a new assessment was requested for the monitoring of the temporary offloading of adhesive felt using Likertt scale: irrelevant (1 point), irrelevant (2 points) and relevant (3 points), and Lawshen's criterion validation index (IVC) was studied. The indicator was considered validated if it reached a minimum average of 0.78, corresponding to a panel of 9 experts.²⁸ For the whole procedure, they were asked for individual opinion on sufficiency, clarity, coherence and relevance by type scale.

Likertt: in total disagreement (1 point), in disagreement (2 points), in agreement (3 points), in total agreement (4 points) and very agreement (5 points). Consistency was studied as content validity (VC) by means of Aiken²⁹ V and reliability by means of α of Cronbach. Statistical programs of Excel 2007 and spss 25 were used.

RESULTS

Table 2 shows the outcome of the CVI as assessed by each expert for the monitoring of felt offloading.

Table 2. Results of expert judgement validation: temporary monitoring offloading devices

			Formula		ne-N/2/N/2
	Items	ne N/2 CVR			
care plan	1	8	4,5		0,78
	2	8	4,5		0,78
	3	8	4,5		0,78
Related to Adhesive Felt	4	5	4,5		0,11*
	5	8	4,5		0,78
	6	8	4,5		0,78
	7	9	4,5		1,00
	8	5	4,5		0,11*
	9	7	4,5		0,55*
	10	9	4,5		1,00
	11	7	4,5		0,55*
	12	9	4,5		1,00
Relation of the felt in the changes of cures	13	9	4,5		1,00
	14	8	4,5		0,78
	15	9	4,5		1,00
	16	9	4,5		1,00
	17	9	4,5		1,00
Self-care	18	8	4,5		0,78
	19	9	4,5		1,00
	20	7	4,5		0,55*
	21	8	4,5		0,78
	22	6	4,5		0,33*
	23	9	4,5		1,00

ne: number of judges who validate the indicator (maximum score 3); N: number of judges who participate. 2: constant. *Indicators who did not reach the minimum score of 0.78 required by the Lawshe method.

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Personal details

Wound characteristics

Offloading monitoring

Health education

OFFLOADING MONITORING

Date

Felt: ☐ Polyester ☐ Wool-viscose

INDICATORS AT INITIAL FELT APPLICATION

Skin condition*

☐ No change
☐ Anhidrosis
☐ Hyperhidrosis
☐ Fragile
☐ Macerated
☐ Irritated

Applied thickness*

☐ 3 mm ☐ 6 mm
☐ 8 mm ☒ 10 mm

Offloading check

☐ None
☒ Manual
☒ Footprint assessment
☐ Pressure platform

Time using felt

☐ 0 days
☐ 1 day
☒ 2 days
☐ 3-7 days
☐ 1 week
☐ Over 1 week

Felt condition*

☐ Secure
☐ Detached
☒ Shifted
☐ Dry
☐ Stained (exudate)

Felt layers

☐ 1 ☒ 2 ☐ 3 ☐ More

Total thickness

☐ 13 mm

External device

☐ None
☒ Forefoot relief shoe
☐ Rearfoot relief shoe
☐ Therapeutic footwear
☐ Walker boot

Effectiveness check

☐ None
☐ Manual
☒ Footprint assessment
☐ Pressure platform

Offloading effect

☐ Maintained
☒ Reduced

SELF-CARE INVOLVEMENT IN FELT OFFLOADING

Asymmetry control

☒ Compensates
☐ Does not compensate

Offloading integrity

☐ Good
☒ Acceptable
☐ Poor
☐ Very poor

Self-care involvement

☐ Excellent
☒ Acceptable
☐ Needs support

Felt removal

☐ None
☒ Easy
☐ Resistant
☐ Very resistant

Skin condition*

☐ No change
☐ Anhidrosis
☐ Hyperhidrosis
☐ Fragile
☒ Macerated
☐ Irritated

Wound condition**

☐ Reduced
☒ Maintained
☐ Complicated
☐ Meets referral criteria
☐ Shared care with advanced-practice nurse

Figure 2. Proposed indicators in monitoring offloading devices included in the care plan of the foot with an active ulcer or wound. Example of indicator records in monitoring of felt offloading devices included in the care plan for managing the foot with an active ulcer or wound.

EPA: advanced practice nurse; PQ: postoperative footwear. *Allows more than one option. **Allows more than one option and specialized consultation.

Table 3. Score of each expert distributed by item

	Suficiency				Clarity				Coherence				Relevance			
Number of experts	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13			
1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
2	5	4	5	5	5	5	4	5	5	5	5	5	5	3	3	3
3	5	5	5	5	5	5	5	5	4	5	5	5	5	5	4	4
4	5	5	5	4	5	4	4	3	5	5	5	5	5	5	5	5
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
7	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
8	4	5	4	4	5	4	4	4	5	5	5	5	5	3	4	4
9	4	4	4	4	4	4	4	4	4	5	5	5	5	4	4	4

6 (4 related to adhesive felt and 2 to self-care) were eliminated. Nine indicators reached the maximum score of 1 (7 directly related to felt and 2 to self-care).

Figure 2 shows a proposal with indicators for the monitoring of offloading.

Table 3 shows domain evaluations for protocol consistency and Table 4 shows VC results by Aiken V by domains.

The reliability using α of Cronbach was 0.89 (95% CI: 0.891 [0.744-0.971]; $p < 0.001$). The final consistency for the whole procedure was 0.93 (correlation index CI: 0.79-0.96).

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Table 4. Validity results of Aiken V protocol

Domains	Items	CVC	IC
Sufficiency	1	0,94	0,81-0,98
	2	0,94	0,81-0,98
Clarity	3	0,94	0,81-0,98
	4	0,91	0,77-0,96
	5	0,97	0,85-0,99
Consistency	6	0,89	0,74-0,95
	7	0,91	0,77-0,96
	8	0,86	0,74-0,93
	9	0,99	0,88-1,00
Relevance	10	0,99	0,88-1,00
	11	0,99	0,88-1,00
	12	0,86	0,71-0,93
	13	0,86	0,71-0,93

CVC: Aiken V content validation coefficient; CI: confidence interval.

DISCUSSION

This protocol is the first validated proposal for using semi-rigid adhesive felt as a temporary offloading method

for a foot with an active ulcer or wound. Intended for nurses with advanced competencies in complex wound management, the results are robust and support its potential incorporation into nursing practice.

Overall, the protocol offers a systematized, reproducible and safe procedure for the application of the semi-rigid adhesive felt as a temporary offloading technique, guaranteeing the effective redistribution of plant pressures and favouring the optimization of the healing process. This tool allows a more precise control of the evolution of the wound and strengthens the safety of the patient.

CONCLUSIONS

The results obtained make it possible to consider the procedure validated through expert judgement.

For its implementation, it will be necessary to carry out a feasibility and clinical effectiveness study after approval by the scientific committee of the institution concerned.

Conflict of interest The authors declare that they have no conflict of interest.

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