



HEEL PROTECTION

FOR THE PREVENTION AND CARE OF PRESSURE ULCERS



Every heel needs protection.

WHY HEEL PROTECTION MATTERS.

The heels are the most common site for facility-acquired pressure ulcers in long-term care facilities and the second most common site for pressure ulcers overall.⁴ They are commonly associated with severe pain, risk of infection and lengthy hospital stays. The Centers for Medicare and Medicaid Services (CMS) will not reimburse hospitals for stage III or IV pressure ulcers that are not present on admission.

THE NUMBERS DON'T LIE.

Pressure ulcers affect millions of people each year and can cause severe pain, infection and lengthy hospital stays. The heels are the second most common site for pressure ulcers overall but they are preventable.⁴

\$9-11

BILLION

Cost to treat pressure ulcers annually in the U.S.²

2.5

MILLION

Number of people in the U.S. affected by pressure ulcers each year²

60,000

Number of patients who die as a direct result of pressure ulcers each year²

\$43,180

Average cost of a hospital stay for pressure ulcer stages III & IV¹

30.3%

The percentage of all pressure ulcers that develop on the heel³

BUILT-IN ANTIMICROBIAL PROTECTION

Medline's Heelmedix and Heel Raiser Pro are the only heel devices to carry the Ultra-Fresh® name, which means you can be assured our devices are treated with antimicrobial agents to inhibit the growth of unwanted microbes within the heel device* that will provide the following key benefits:

- » Help inhibit the growth of bacteria and fungi responsible for creating unpleasant smells and staining.
- » Control unwanted microbes on the fabric to help keep devices fresh, hygienic, and odor free.

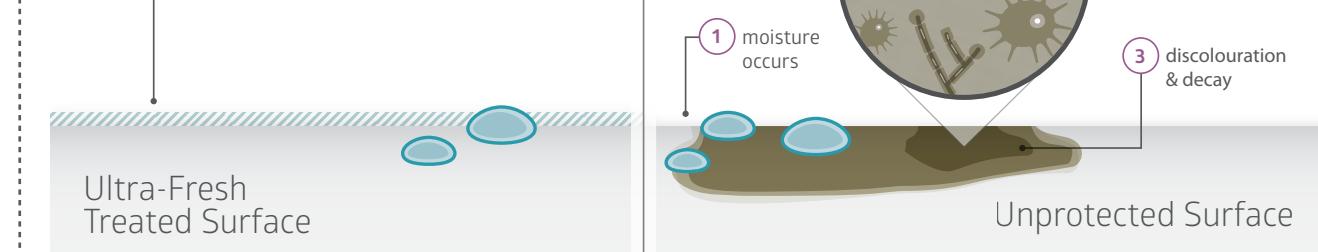


How Ultra-Fresh keeps heel devices fresh and protected⁸

Stay cleaner and more durable with Ultra-Fresh*

* surfaces are more durable & more hygienic

Ultra-Fresh Treated Surface



In an untreated device (see the image above at right), perspiration can encourage the growth of bacteria. This growth can lead to unpleasant odors and product discoloration. Devices treated with Ultra-Fresh remain fresh by actively inhibiting the growth of bacteria and fungi. By protecting heel protectors from unwanted microbes, Ultra-Fresh antimicrobial helps to keep the devices clean, fresh, and odor free.

Medline is your single source for heel protection devices.

According to clinical experts, the most effective pressure ulcer prevention for the heels is pressure relief known as offloading.^{4,5} Offloading is achieved with heel protection devices that relieve pressure by elevating the heel. Medline offers a broad array of heel protection devices to fit your needs and budget. These devices are a vital component of a pressure ulcer prevention program at your facility.

*Ultra-Fresh is an EPA-registered antimicrobial. This product does not protect users or others from disease-causing bacteria. Always clean according to Instructions for use. Ultrafresh is a registered trademark of Thomson Research Associates.

HEELMEDIX®

All-in-one pressure relief and skin protection.

Medline's Heelmedix, designed with the help of clinicians, offers supreme offloading and foot drop protection as a vital part of your pressure ulcer prevention program.



An optional wedge can be used to help prevent medial & lateral rotation.

Benefits

- » Offloads the heel and helps redistribute pressure.
- » Fabric surface treated with Ultra-Fresh® antimicrobial treatment which helps to inhibit odor-causing bacteria.*
- » Screen printing of "toes" and "heel" eliminates confusion to ensure the boot is applied properly.
- » Open heel design allows for airflow and easy monitoring.
- » Gray straps pull down on side to help protect against foot drop.
- » Patented side hole design minimizes chance of SCD tubing touching patients skin.
- » Inner lining helps reduce friction and shear - half the friction of the competitor.**
- » Includes mesh laundry bag to simplify washing and sorting.

Available in Three Sizes to Accommodate All Patients

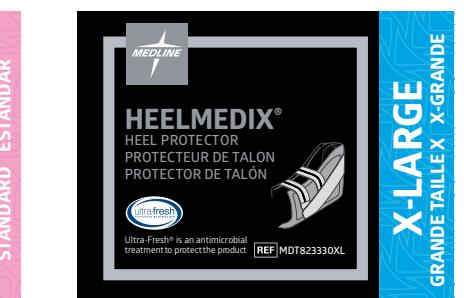
To fit Heelmedix® properly, measure the circumference of the patients calf at its largest point. Color-coded tags (shown below) help to quickly identify size.



5-11 inches calf circumference
(12.7-27.9 cm)



11-19 inches calf circumference
(27.9-48.2 cm)



19-25 inches calf circumference
(48.2-63.5 cm)

Item No.	Description	Pkg
MDT82330P	Heelmedix Heel Protector, Petite	1/ea
MDT82330SW	Heelmedix Heel Protector, Standard w/ Wedge	1/ea
MDT82330	Heelmedix Heel Protector, Standard	1/ea
MDT82330CS	Heelmedix Heel Protector, Standard	4/cs
MDT82330XL	Heelmedix Heel Protector, X-Large w/ Wedge	1/ea
MDT82330W	Heelmedix Stabilizer Wedge	2/ea
MDT82331W	Heelmedix Stabilizer Wedge	1/ea

*Ultra-fresh EPA registered antimicrobial does not protect users or others from disease-causing bacteria. Always clean according to instructions for use.

**Data on file.

Testing shows Heelmedix® offers exceptional heel offloading.

Study 1: Heel OffLoading

Using a pressure-sensing mat, 19 patients in a long-term care facility were tested for heel pressure on a mattress, in a Heelmedix device, and in the competitor's device. Heelmedix completely offloaded the vulnerable heel area. Here are the pressure mapping conclusions:



Study 2: Plantar Flexion

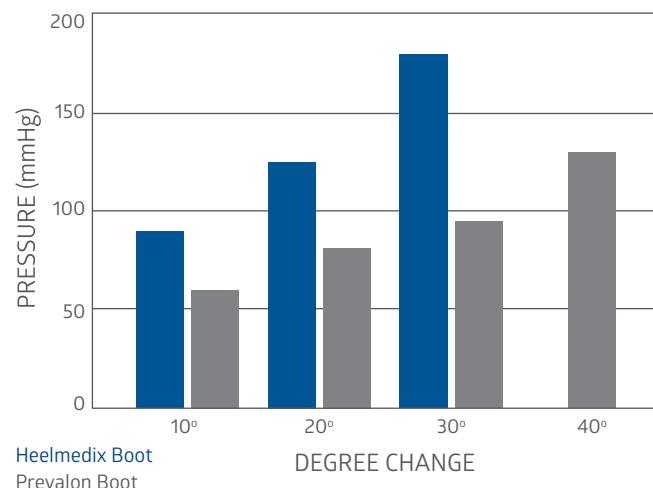
Prolonged plantar flexion (a toe-down motion of the foot at the ankle) can contribute to foot drop. Foot drop is a condition of uncontrolled plantar flexion that can develop in non-ambulatory patients.

Results and Conclusions*

- » Heelmedix demonstrated a 24.5% greater resistance to plantar flexion and twice the supportive strength of the competitor.
- » The strapping design on Heelmedix was able to prevent a foot drop beyond 40 degrees under all force conditions, while heel offloading on the competitor's boot was not able to stop this severe foot drop angle.

MAXIMUM PRESSURE EXERTED PER ANGLE

The strapping design on Heelmedix was able to prevent a foot drop beyond 40 degrees under all force conditions.



Study 3: Strap Durability

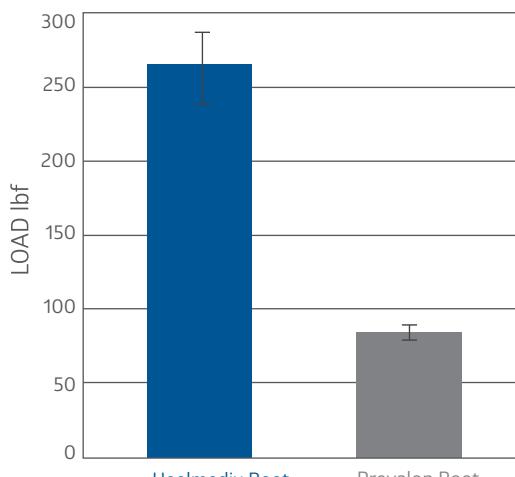
Straps on a heel protector are important for ensuring that the boot stays properly fitted for each individual patient. If straps have the capability of stretching out there is a potential that the boot will not remain secure on the patient.

Results and Conclusions*

- » Heelmedix straps were relatively unchanged following repetitive strap pulls compared with the competitor's straps, which increased 89.53% in length.
- » When tested under tension to failure, Heelmedix straps were three times stronger than the competitor's.

TENSILE STRENGTH AT BREAK

Heelmedix straps required over three times more force to break than the competitor's straps.



*Data on file

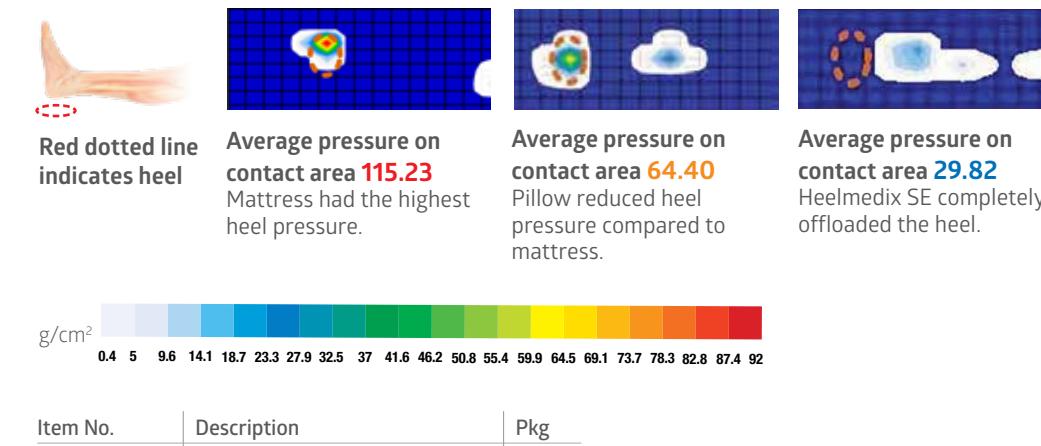
HEELMEDIX® SE

Pressure relief and skin protection all in one.

By completely offloading the heel, Medline's Heelmedix SE delivers effective pressure relief to help prevent skin breakdown.



Clinical Study Shows Effective Results* - Using a pressure-sensing mat, 19 patients in a long-term care facility were tested for heel pressure on a mattress, a pillow and in a Heelmedix SE. Heelmedix SE completely offloaded the vulnerable heel area. Here are clinically proven pressure mapping results:



Item No.	Description	Pkg
MDT82500CS	Heelmedix SE, Heel Protector	4/cs

Benefits

- » Helps prevent pressure ulcers by completely offloading the heel and delivering effective pressure relief.
- » Promotes air circulation and easy monitoring by openly floating the heel.
- » Allows for DVT pressure devices with one opening on each side of the boot.
- » Helps reduce friction and shear with suede-like inner lining.

HEEL RAISER® PRO

Provides heel protection and effective pressure relief.

The Heel Raiser Pro's breathable fabric helps control heat and moisture levels for optimum comfort and protection.



Benefits

- » Completely offloads the heel, redistributing pressure along the calf.
- » Treated with Ultra-Fresh® antimicrobial treatment which helps to inhibit odor-causing bacteria.*
- » Breathable fabric helps control heat and moisture levels.
- » Top folds down for smaller feet, and increases airflow to toes.
- » Anatomical strapping pattern offers best fit for the patient.
- » One size fits most.
- » Easily wipes clean.
- » Machine washable, mesh laundry bag included.

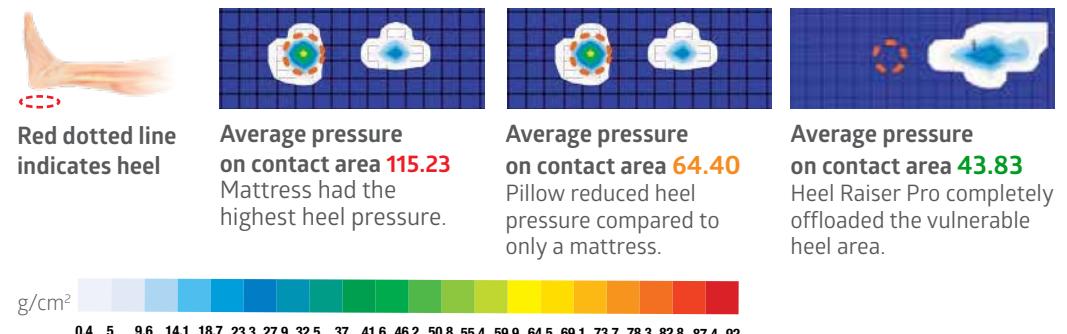
Item No.	Description	Pkg
MDT82650CS	Heel Raiser Pro, Heel Protector	4/cs

*Ultra-fresh EPA registered antimicrobial does not protect users or others from disease-causing bacteria. Always clean according to instructions for use.

Studies show Heel Raiser® Pro demonstrates exceptional heel offloading.

Study 1: Heel Raiser Pro offers greater heel offloading

Using a pressure-sensing mat, 19 subjects in a long-term care facility were tested for heel pressure on a mattress, a pillow and in a Heel Raiser Pro. Here are the pressure mapping conclusions:



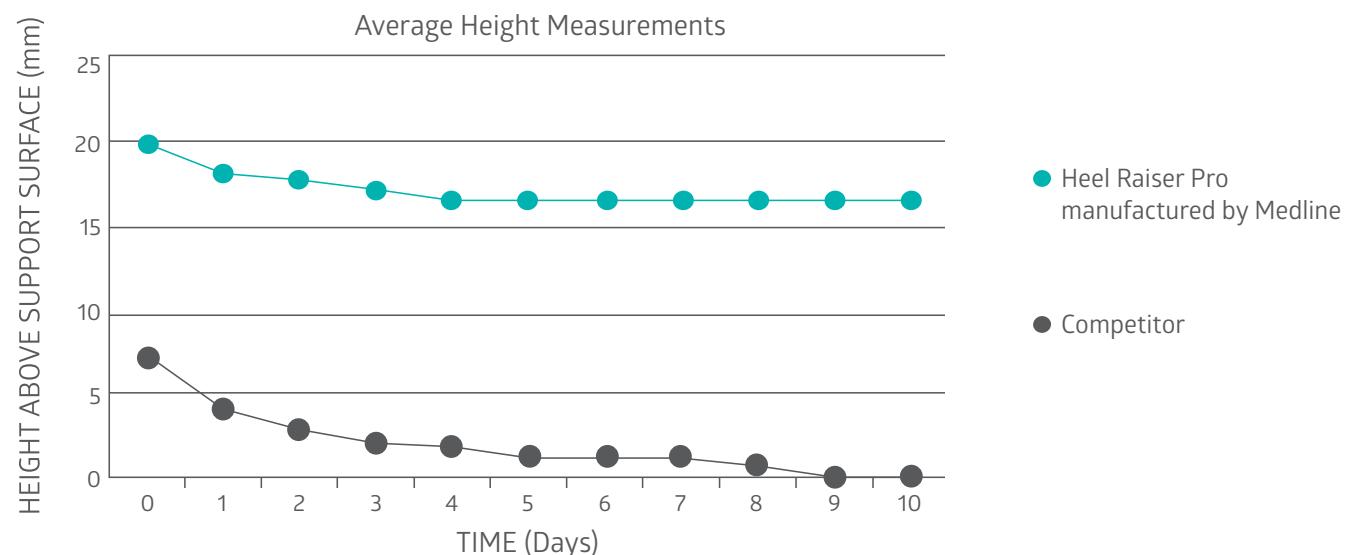
Study 2: Heel Raiser Pro offloading shown to be more effective over a longer period of time

The study compared the duration of effective offloading of the Heel Raiser Pro and the competitor's inflatable pressure-relief boot in a controlled laboratory setting.

Results and Conclusions⁹

- » The Heel Raiser Pro was shown to have the greater average starting height, the better (smallest value) average height loss per day; and the longest estimated duration of effective offloading compared to the competitor's inflatable boot.
- » The rate of height loss for the Heel Raiser Pro was much less than that of the competitor, which allows for the Heel Raiser Pro to be used for a much longer period of time before offloading would be lost.
- » Air can be added to the competitor's product, if needed. However, the Heel Raiser Pro can provide offloading without re-inflating the device.

The rate of height loss for the Heel Raiser Pro was much less than that of the competitor



HEEL RAISER®

Effectively offloads heels.

The Heel Raiser's super soft and comfortable lining further reduces friction and shear to help protect against skin breakdown.



Benefits

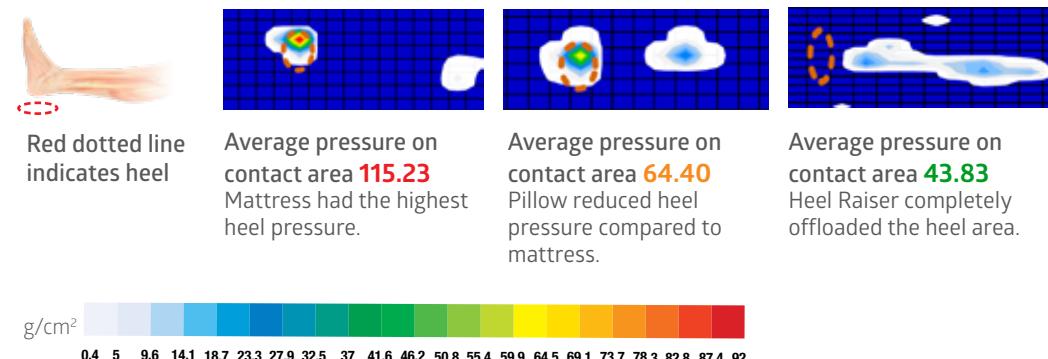
- » Completely offloads the heel.
- » Top folds down to accommodate small feet and increase airflow to toes.
- » Soft, comfortable material prevents friction and shear.
- » Open heel design promotes air circulation and allows for easy monitoring.
- » Includes mesh laundry bag to simplify washing and sorting.
- » One size fits most.

Item No.	Description	Pkg
MDT823296	Heel Raiser, Heel Protector	4/cs

Tests show Heel Raiser® provides greater heel offloading.

Study 1: Heel Raiser offers greater heel offloading*

Using a pressure-sensing mat, 19 patients in a long term care facility were tested for heel pressure on a mattress, a pillow and in a Heel Raiser. The Heel Raiser completely offloaded the vulnerable heel area. Here are the pressure mapping conclusions:



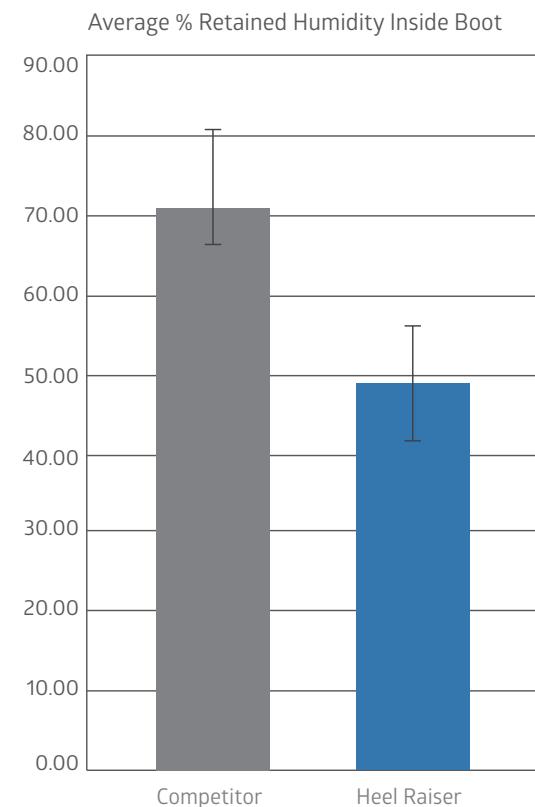
ON AVERAGE THE HEEL RAISER RETAINED 23% LESS HUMIDITY THAN THE COMPETITOR'S INFLATABLE BOOT.

Study 2: Heel Raiser shown to remain less humid for longer time

High humidity trapped in the material of the boot could cause the skin cells to become stressed and more susceptible to breakdown. The study measured and compared the microclimate inside the Heel Raiser and a competitor's inflatable heel protector by applying heat and water vapor at a constant rate to the surfaces of the two pressure relieving boots.

Results and Conclusions*

- » The Heel Raiser performed better in managing humidity compared to the competitor's heel protector. On average, the competitor retained 23% more humidity than the Heel Raiser. The design and materials of the Heel Raiser allowed the boot to remain significantly less humid.
- » The Heel Raiser took significantly longer to achieve its maximum humidity, allowing it to stay more comfortable for the patient for a longer amount of time.



*Data on file



SKINTEGRITY™

Total Skin Health Solution

Medline is your complete skin management solution.

Heel protection devices are just one component of Medline's Skintegrity comprehensive skin management program. Skintegrity emphasizes standardization of care across the continuum through customized education, clinically-proven, evidence-based products and ongoing outcomes management.

Skintegrity is part of the Medline clinical solutions program.

Our solutions include:



Education: Our courses cover the basics of care and teach teamwork, leadership and how to implement change.



Products: Our clinically-proven products provide breadth and depth across the continuum of care.



Outcomes: Our useful tools ensure that learnings get applied to practice and help track results.

To learn more, contact your Medline representative, visit us at medline.com, or call 1-800-MEDLINE.



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REFERENCES 1. Federal Register: Department of Health and Human Services Centers for Medicare & Medicaid Services Part II, p. 48473 Tuesday, August 19, 2008. 2. <http://www.ahrq.gov/professionals/systems/long-term-care/resources/pressure-ulcers/pressureulcer toolkit/putool1.html> 3. Amlung SR, Miller WL, Bosley LM, "The 1999 National Pressure Ulcer Prevalence Survey: A Benchmarking Approach," *Adv Skin & Wound Care*. Nov/Dec 2001;14(6):297-301 4. Fowler E, Scott-Williams S, McGuire JB. Practice recommendations for preventing heel pressure ulcers. *Ostomy Wound Management*. 2008;54(10):42-48. 5. Langemo D, Thompson P, Hunter S, Hanson D, Anderson J. Heel pressure ulcers: stand guard. *Advances in Skin & Wound Care*. 2008;21(6):282-292. 8. <http://www.ultra-fresh.com/how-antimicrobials-work/fresh/> 9. Evan Call MS, CSM (NRM) 1 Daniel L. Young, PT, DPT 2 Weber State University, Ogden Utah; 2 Associate Professor, Department of Physical Therapy, University of Nevada, Las Vegas; 3 Vice President, Clinical and Technical Strategy, Skin and Wound Care Division, Medline Industries Inc. Some products may not be available for sale in Mexico or Canada. We reserve the right to correct any errors that may occur within this brochure. © 2016 Medline Industries, Inc. Medline, Heelmedix, and Heel Raiser are registered trademarks and Skintegrity is a trademark of Medline, Industries, Inc. Ultrafresh is a registered Trademark of Thomson Research Associates. Prevalon is a registered trademark of Sage Products, Inc. MKT 1664779 / LIT809 / 5M / SG / 4