

## RESEARCH LETTER

## Assessment of Wound Care Products at Major Retailers in Accordance with the American Academy of Dermatology's Recommendations

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### ABSTRACT

**Background:** Proper wound care is important for improving healing outcomes and minimizing long-term effects of scar formation. Selection of appropriate care may be challenging for individuals due to overabundance of product selection, and conflicting evidence on common wound care products, which may pose a risk for delayed wound healing.

**Objective:** We aimed to assess whether wound care products sold by major retailers, specifically Walmart, Walgreens, and Target, align with the recommendations on patient support information websites provided by the American Academy of Dermatology.

**Methods:** A unique search inquiry was established for each major retailer, and analysis of their first aid wound care sections was performed.

**Results:** 393 Walgreens, 334 Walmart, and 285 Target products were included. 0% of wound cleansing products available were recommended by the academy. Petroleum-based products were represented in 61% in Walgreens, 76.2% in Walmart, and 78.4% in Target products assessed. In total, 61.6% of products in Walgreens, 57% in Walmart, and 52.7% in Target were consistent with AAD recommendations for providing appropriate wound coverage.

**Conclusion:** Many products sold in retailers are not recommended in managing acute minor wounds; appropriate counseling from the AAD may provide insight to optimizing wound care and scar minimization.

### INTRODUCTION

Choosing appropriate wound care for minor wounds may be challenging for patients owing to the immense market of available products, with over 3000 dressings options alone.<sup>1</sup> Economic models estimate the wound care market to reach value at \$15 to \$22 billion by 2024.<sup>2</sup> Thus, evidence-based recommendations provided by the American

Academy of Dermatology (AAD) may offer guidance and alleviate the burden patients encounter.

Recommendations for optimal wound closure include three main features: (1) cleansing with soap and water, (2) wound hydration with petrolatum products, and (3) wound protection using adhesive bandages, or a combination of non-adhesive gauze and skin-sensitive tape.<sup>3</sup> We aimed to investigate

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which products sold in Walmart, Walgreens, and Target aligned with these recommendations.

## METHODS

A unique search inquiry was established for each retailer (**Supplemental information**). Products were distributed into sections using the following protocol (**Figure 1**). Items listed in evaluated sections not intended for wound care, first-aid kits involving combinations of products, and items sold by third-party sellers within Walmart were excluded. Each retail website was reviewed independently; exclusion of duplicate products across websites was not performed due to variability of search inquiries.

## RESULTS

393 Walgreens, 334 Walmart, and 285 Target products were assessed (**Table 1**). Wound cleansing items comprised of antiseptics, including hydrogen peroxide, iodine, isopropyl alcohol, chlorhexidine, and normal saline, and antibiotic ointments, including isolated or combined formulations of bacitracin, polymyxin B, and neomycin. Despite inclusion of 171 items, 0% were recommended.

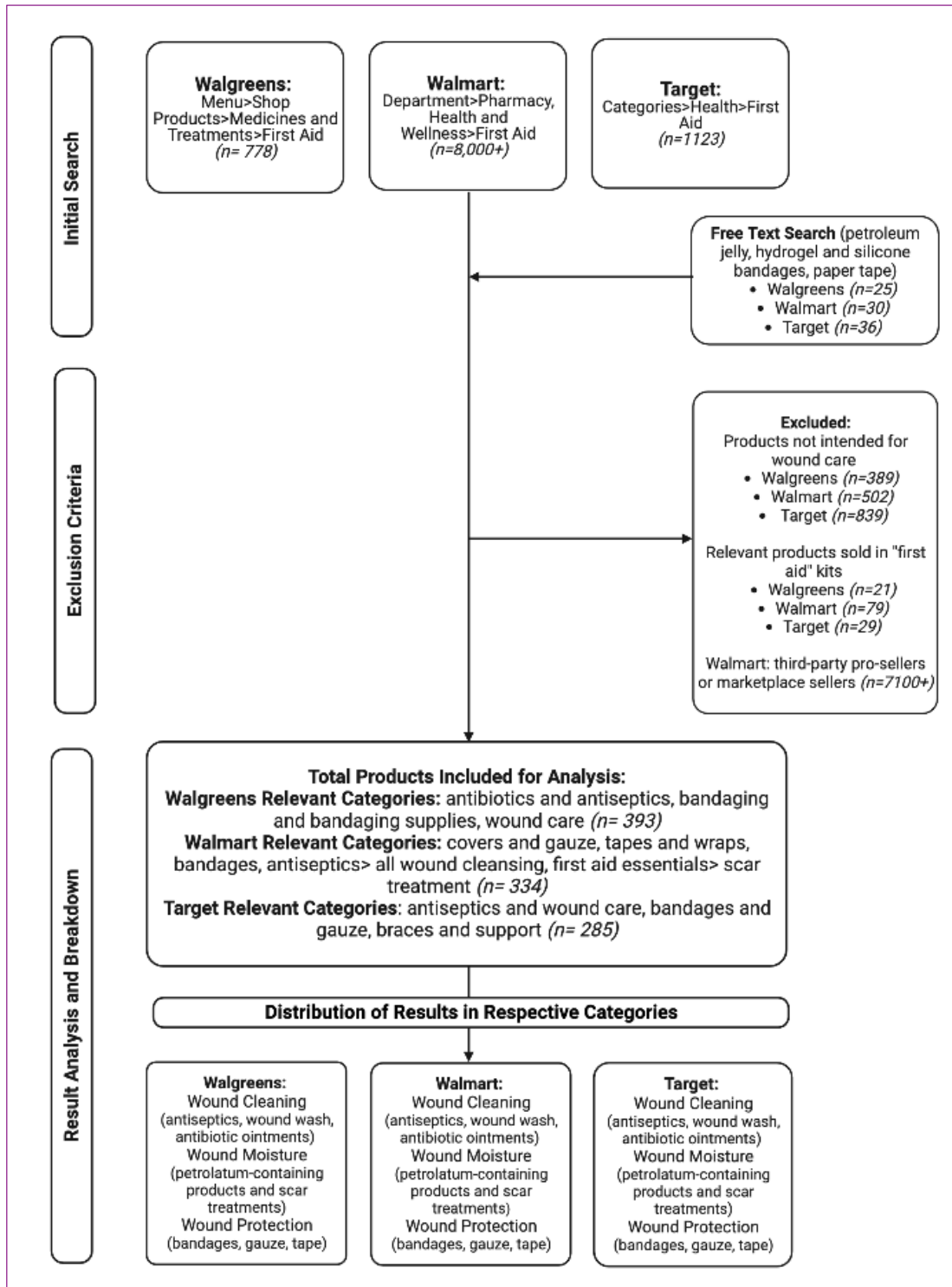
Evaluation of wound hydration products included those with active ingredients containing either petrolatum, silicone, allantoin, vitamin E, panthenol, silver, or hyaluronic acid, in formulations of either cream, lotion, ointment, or patch adhesives (n=127). Items containing petrolatum, as advised by the AAD, represented 61%, 76.2%, and 78.4% in Walgreens, Walmart, and Target, respectively. Wound protection products included adhesive, liquid, silicone, and hydrogel bandages, non-adhesive

gauze, dressings, wraps, and adhesive tape of varying materials (n=714). Evaluation resulted in 61.6%, 57%, and 52.7% of products meeting AAD recommendations in Walgreens, Walmart, and Target, respectively.

## DISCUSSION

For wound management, retailers advertise using antiseptics followed by antibiotic ointments and bandages as physician-recommended guidelines; however, these recommendations remain controversial among dermatologists and wound healing experts. Reports suggest that antiseptics can reduce the viability of human skin fibroblasts, cells vital to wound healing, exhibiting cytotoxic effects and decreasing wound closure.<sup>4</sup> While antiseptics may have a role in chronic wounds, preoperative procedures, and clinically infected wounds, their use in uninfected wounds is generally not recommended.<sup>5</sup> Similarly, evidence for decreased infection after prophylactic topical antibiotic application is limited; however, utilization and prescribing trends are steadily increasing.<sup>5</sup> Moreover, topical antibiotics carry several potential risks, including cases of allergic contact dermatitis to neomycin and bacitracin, affecting 11.7% and 9.4% of patients, respectively, as well as increasing community-acquired antibiotic resistance to *Staphylococcus* species.<sup>6</sup> Thus, per the AAD's guidelines for clinically uninfected wounds, soap and water are efficient modalities for daily cleansing, deeming all antiseptic, antibiotic, and disinfecting products unnecessary in our review.<sup>3</sup>

Optimizing wound microenvironments through adequate hydration and protection results in favorable wound-healing outcomes.<sup>5</sup> Dermatologists often recommend petrolatum due to its non-irritant nature and



**Figure 1.** Study design for assessment of wound care products. Final analysis of products was allocated in three categories according to AAD’s recommendations: (1) wound cleaning, (2) wound moisture, and (3) wound protectants.

**Table 1.** Results of analysis of wound care products in Walgreens, Walmart, and Target.

	Walgreens	Walmart	Target
Total # of Products, n	393	334	285
<b>Wound Cleaning Products</b>			
Total, n	74	64	33
Met AAD requirements, n (%)	0 (0)	0 (0)	0 (0)
<b>Wound Moisture, Scar Minimization Products</b>			
Total, n	34	42	51
Met AAD requirements, n (%)	21 (61.7%)	32 (76.2%)	40 (78.4%)
<b>Protectant Products</b>			
Total	285	228	201
Met AAD requirements, n (%)	177 (61.6)	130 (57)	106 (52.7)
<b>Subcategories</b>			
Adhesive Bandages	132	112	95
Gauze	38	15	7
Paper Tape	7	3	4

occlusive properties.<sup>7</sup> Moreover, petrolatum may upregulate key antimicrobial peptides and induce expression of filaggrin and loricrin, resulting in increased water retention and improved skin barrier.<sup>7</sup> Our results displayed at least 60% of moisture-promoting products across all retailers containing petrolatum as viable options for retaining moisture. Interestingly, several products also contained hyaluronic acid, aimed at aiding in collagen formation and scar minimization.<sup>1</sup> Moreover, evidence for adhesive bandages in superficial wounds report faster re-epithelialization rates and reduced incidence of secondary infections.<sup>1</sup> Our review indicated a wide variety of adhesive bandages that fit within AAD's recommended guidelines, with varying properties including flexibility, and breathability promoting patient satisfaction. Use of liquid adhesives may also maintain similar properties of occlusion; however, these have not been studied in wound healing outcomes. AAD's patient information site serves as an evidence-based practical guide to improving wound outcomes.<sup>3</sup> Surprisingly, many products evaluated at these retailers did not fit with AAD's recommendations; appropriate counseling on specific products may provide insight to patients for optimizing wound care.

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## SUPPLEMENTAL INFORMATION

## Search Inquiry

**Walgreens:**

Walgreens>Menu>Shop Products>Medicines and Treatments>First Aid

Subcategories chosen from First Aid Section: antibiotics and antiseptics, bandaging and bandaging supplies, wound care, scar treatments;

Free Text search: petroleum, wound hydration, silicone bandages, hydrogel bandages, paper tape.

**Walmart:**

Walmart> Departments>Pharmacy, Health and Wellness>First Aid

Subcategories chosen from First Aid Section: covers and gauze, tapes and wraps, bandages, antiseptics> all wound cleansing, first aid essentials> scar treatment

Free Text search: petroleum, wound hydration, silicone bandages, hydrogel bandages, paper tape.

**Target:**

Target>Categories>Health>First Aid

Subcategories chosen from First Aid Section: antiseptics and wound care, bandages and gauze, braces and support, scar treatments.

Free Text search: petroleum, wound hydration, silicone bandages, hydrogel bandages, paper tape.