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# Efficacy of modern wound dressings in chronic venous and arterial leg ulcers: a systematic review

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**Abstract**

***Background**: Chronic venous and arterial leg ulcers are prevalent, hard-to-heal wounds; this review aimed to assess the comparative effectiveness of modern wound dressings in promoting healing and symptom control.*

***Methods:** A systematic search of PubMed, Embase, Cochrane CENTRAL, Web of Science, and Scopus (2000–2022) identified RCTs and systematic reviews assessing modern dressings in adults with CVUs or ALUs. Primary outcomes included wound healing and time to closure. Risk of bias was assessed using Cochrane tools and GRADE.*

***Results:** Ten studies (RCTs/systematic reviews; n = 99–3,001) evaluated modern dressings in CVUs and ALUs. Silver dressings showed short-term wound area reduction (MD 0.23 cm²/day, P = 0.004) and reduced odor but had no significant effect on complete healing (RD 0.00; 95% CI −0.09 to 0.09). Hydrocolloids offered no healing advantage over low-adherent dressings (RR 1.02; 95% CI 0.83–1.25), and hydrogel efficacy remained inconclusive (RR 1.53; 95% CI 0.96–2.42). Foam and hydrocellular dressings improved exudate management but not healing rates (HR 1.48; 95% CI 0.87–2.54). Collagen dressings showed marginal improvement in granulation (RR 1.13; 95% CI 0.86–1.47) in CVUs, with no proven benefit in ALUs. Honey and alginate dressings demonstrated antimicrobial and absorptive benefits, respectively, but lacked large-scale comparative data. Overall, modern dressings provided symptom control and wound environment optimization without significantly accelerating complete ulcer healing.*

***Conclusion:** No modern dressing demonstrated clear superiority in complete ulcer healing. Dressing selection should be guided by ulcer characteristics rather than dressing type. In ALUs, healing remains limited without revascularization. Future trials must prioritize real-world populations, longer follow-up, and cost-effectiveness.*

***Keywords:** chronic leg ulcers, wound dressings, venous leg ulcers, arterial leg ulcers, wound healing.*

## Introduction

Chronic leg ulcers, primarily venous (CVUs) and arterial (ALUs), pose a persistent clinical and economic burden, affecting up to 3% of adults globally and accounting for over 80% of lower extremity wounds.[1,2] In the U.S., approximately 6.5 million people live with chronic wounds, with Medicare spending exceeding $14.9 billion annually on venous ulcers alone.[3,4] CVUs result from sustained venous hypertension and microvascular inflammation, while ALUs arise from critical limb ischemia due to peripheral arterial disease (PAD),which afflicts over 200 million people worldwide and disproportionately affects diabetic and elderly populations.[5,6] Healing trajectories diverge significantly accurate. 3 references, ama style list. search evidence 7, 8, 9. CVUs require exudate management within a moist environment, whereas ALUs necessitate ischemia reversal and infection control.[7] Despite widespread use, conventional gauze dressings are clinically outdated, associated with delayed epithelialization, desiccation, and microbial colonization. Modern wound dressings, including hydrocolloids, foams, alginates, silver-impregnated, and negative pressure wound therapy (NPWT), claim to accelerate healing by optimizing moisture balance and bacterial load.[8] The effectiveness of modern wound dressings in chronic venous and arterial leg ulcers remains inconclusive. While certain products show promise in venous ulcers, outcomes in arterial ulcers vary, especially in the presence of unresolved ischemia.[9] Clinical translation is hindered by high recurrence rates and limited generalizability, as most trials exclude patients with comorbidities or socioeconomic barriers. This review critically examines existing evidence to clarify the role of these dressings in diverse clinical settings.

## Methodology

### *Search Strategy and Data Sources*

A comprehensive literature search was performed across PubMed, Embase, Cochrane CENTRAL, Web of Science, and Scopus. The search spanned from January 2000 to December 2022. Search terms were structured using MeSH and free-text terms, including combinations of: *"chronic venous ulcer," "arterial leg ulcer," "wound dressing," "advanced dressings," "hydrocolloid," "silver," "foam," "collagen,"* and *"compression therapy."* Boolean operators and truncations ensured maximal yield. Reference lists of relevant reviews and clinical guidelines were hand-searched to capture additional studies. Grey literature was excluded due to its variable quality and lack of peer review.

### *Eligibility Criteria*

*Studies were included if they*:

1. Were randomized controlled trials (RCTs) or systematic reviews/meta-analyses.
2. Involved adult patients (≥18 years) with clinically diagnosed **chronic venous or arterial leg ulcers**.
3. Assessed **modern wound dressings** (e.g., hydrocolloid, foam, alginate, collagen, silver-based) as standalone or adjunct interventions under compression therapy.
4. Reported on at least one quantifiable clinical outcome (e.g., wound closure, time to healing, adverse effects).

*Exclusion criteria comprised:*

- Studies focused on **acute wounds**, **diabetic foot ulcers**, **surgical wounds**, or **pressure ulcers**.
- Trials with <2 weeks of intervention or unclear ulcer etiology.
- Observational studies lacking randomization or controls.
- Studies using outdated dressing materials not reflective of current practice.

### *Study Selection and Data Extraction*

Titles and abstracts were independently screened by two reviewers. Full texts were assessed for eligibility, and discrepancies were resolved through consensus or third-party arbitration. Structured extraction templates captured study characteristics, interventions, population demographics, methodological design, comparator arms, follow-up duration, and primary/secondary endpoints.

### *Included Studies*

A total of 10 **systematic reviews/meta-analyses**/randomized trials were included, representing diverse geographies, patient populations, and intervention types. Sample sizes ranged from 99 to 3,001 participants. Follow-up periods varied (3 weeks to 48 weeks), and intervention modalities included silver-based dressings, hydrocolloid, polyurethane foam, collagen, and bioengineered skin equivalents. All included RCTs incorporated compression therapy as a standard background intervention, enabling assessment of dressing efficacy independent of mechanical offloading.

### *Rationale for Inclusion*

Studies were selected not solely for sample size or publication status but for methodological rigor, relevance to current clinical dressing options, and clarity in defining venous and arterial etiology. Trials were excluded if design flaws (e.g., lack of blinding, selective outcome reporting, unclear randomization) risked biasing conclusions or if dressing types lacked contemporary clinical applicability. Studies with only surrogate endpoints or those failing to distinguish compression effects from dressing efficacy were also excluded.

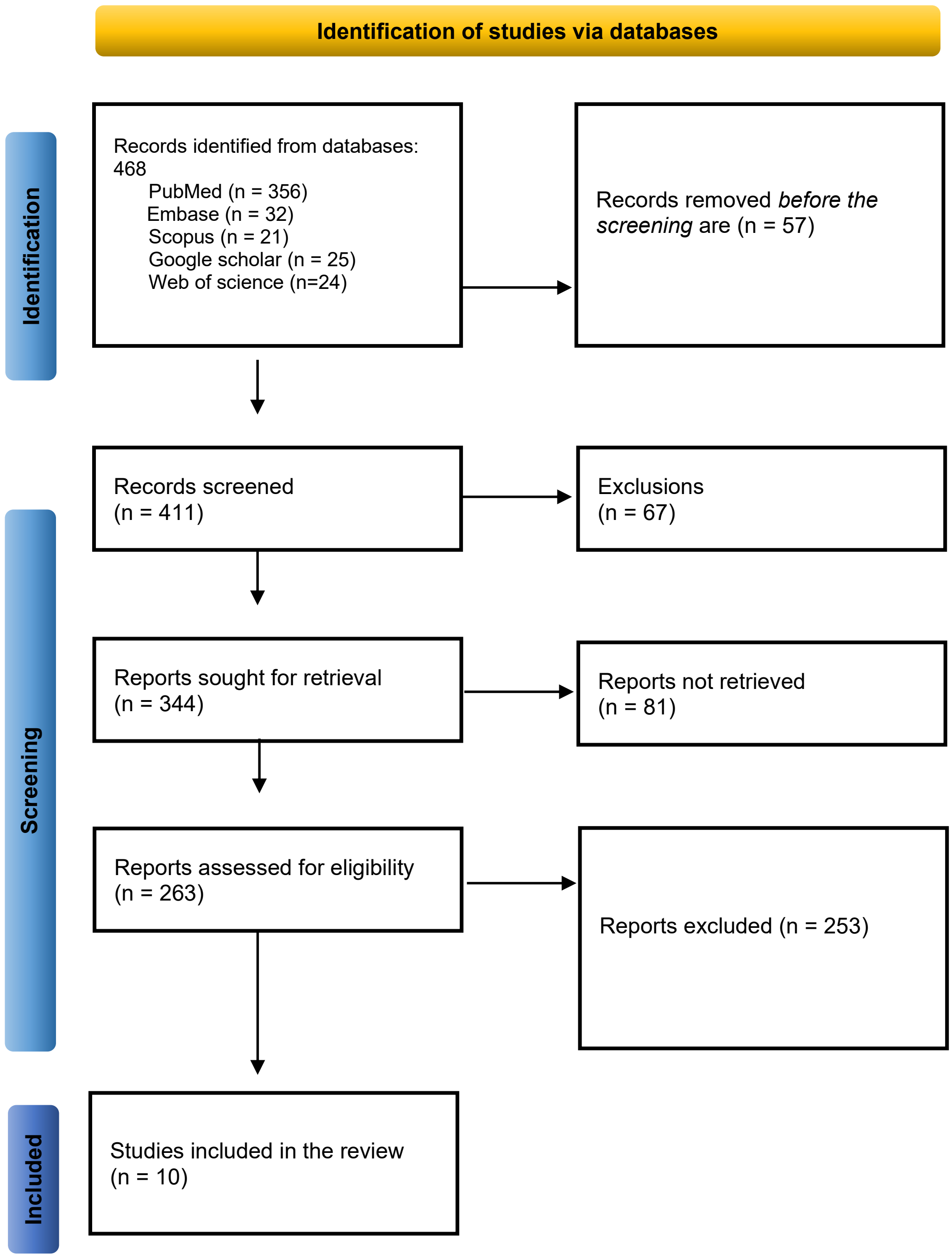


***Figure 1. Prisma flow diagram detailing the screening process.***

## Results

A comparative analysis of dressing types reveals variable efficacy across ulcer subtypes and wound conditions. Hydrocolloid dressings, while occlusive and moisture-retentive, demonstrate no significant superiority in healing rates compared to low-adherent dressings (RR 1.02, 95% CI 0.83–1.25; Palfreyman et al., 2007) and are limited by poor adherence in high-exudate wounds. Hydrogels offer hydration and analgesia for dry or necrotic ulcers, yet current evidence is inconclusive, with one study suggesting a trend toward benefit (RR 1.53, 95% CI 0.96–2.42). Foam dressings, including polyurethane types, do not significantly enhance closure rates (Franks et al., 2007) but provide superior control of exudate, making them suitable under compression therapy. Alginate dressings, derived from seaweed, are favored for heavily exudative or infected ulcers due to their high absorptive capacity, though robust pooled data remain absent. Silver-impregnated dressings have shown no advantage in complete ulcer healing (RD 0.00, 95% CI −0.09 to 0.09; Vermeulen et al., 2007), though they reduce wound size and odor, supporting their use in short-term infection management. Hydro fiber dressings similarly show promise in managing moderate-to-heavy exudate, though limited RCT data restrict conclusions. Collagen-based dressings support granulation in chronic non-healing wounds (RR 1.13, 95% CI 0.86–1.47; Bouza et al., 2005) but lack clear benefit in arterial ulcers. Honey-based options demonstrate antimicrobial and autolytic effects in small studies but are hindered by skin irritation and lack of cost-effectiveness. Negative Pressure Wound Therapy (NPWT), while not supported by RCTs in vascular ulcers, may assist complex wounds post-debridement but is not viable as standalone therapy. From a statistical perspective, silver dressings improve short-term wound area reduction (MD 0.23 $cm^2$/day, $P = 0.004$; Zhao et al., 2020), yet fail to achieve complete healing superiority. Foam and hydro cellular dressings offer equivalent closure rates (HR 1.48, 95% CI 0.87–2.54), and hydrocolloids continue to show parity with low-adherent controls. Clinically, dressing selection should align with ulcer characteristics: foam or hydro fiber for exudative venous ulcers, silver for infected wounds, and hydrocolloids for low-exudate scenarios. For arterial leg ulcers (ALUs), dressing efficacy is limited unless revascularization is addressed; collagen and hydrogels may offer adjunctive benefit in granulation support.

**Study Characteristics: Modern Wound Dressings in Chronic Venous and Arterial Leg Ulcers**

| *Author(s)* | Year | Study Design | Population Characteristics | Sample Size / Range | Duration / Follow-up | Intervention | Methodology |
|---|---|---|---|---|---|---|---|
| *Valle et al.*[10] | 2014 | Systematic review | Adults with chronic venous leg ulcers | 37 studies; individual sizes not specified | Varied; not uniformly reported | Advanced wound dressings vs. compression alone | Database search, dual review, study quality graded |
| *Vermeulen et al.*[11] | 2007 | Systematic review of RCTs | Adults (>18 years) with contaminated/infected acute or chronic wounds | 847 participants (3 RCTs; 99–619 per study) | Up to 4 weeks | Silver-containing dressings or topical silver agents | PRISMA-guided meta-analysis |
| *Palfreyman et al.*[12] | 2007 | Systematic review & meta-analysis | Chronic venous leg ulcers | 3001 participants (3037 ulcers/limbs) | Mean 14 weeks (range 4–48) | Hydrocolloid, foam, hydrogel, alginate | PRISMA-guided review, random-effects meta-analysis |
| *Bouza et al.*[13] | 2005 | Systematic review | Patients with venous or mixed leg ulcers | 2079 participants (31 RCTs) | 3 weeks to 37 months | Hydrocolloids, polyurethane, alginate, collagen, charcoal | Fixed-effect meta-analysis, Jadad scale |
| *Nelson et al.*[14] | 2011 | Systematic review | Adults with VLUs (± arterial disease) | 101 studies | Through June 2011 | Compression, dressings, surgery, systemic agents | Multi-database search, GRADE evaluation |
| *Franks et al.*[15] | 2007 | RCT | Chronic VLUs (venous-only) | 156 patients; ulcer size 0.33–123.10 $cm^2$ | 24 weeks | Allevyn vs. Mepilex + compression | Factorial design |
| *Michaels et al.*[16] | 2009 | Pragmatic RCT + cost-effectiveness | VLUs >6 weeks, adults (UK) | 213 RCT; 304 total | 12 weeks (healing); 6mo & 1yr (recurrence) | Antimicrobial silver vs. non-adherent | RCT + observational arm + modeling |
| *Zhao et al.*[17] | 2020 | Meta-analysis & systematic review | Patients with VLUs | 1057 (8 RCTs: 526 silver, 531 control) | 4–10 weeks | Silver-containing vs. non-silver dressings | Cochrane risk tool; fixed/random effects |
| *O'Donnell et al.*[18] | 2006 | Systematic review of RCTs | Patients with CVUs using compression | 20 RCTs | Varied | Semiocclusive, GF, skin equivalents | RCTs with objective endpoints |
| *Not stated (sponsored)*[19] | 2002 | RCT | VLUs ≤9$cm^2$, exudative | 118 (99 completed) | 8 weeks (mean 7) | Polyurethane vs hydrocellular | 4-center, block random, ITT |

## Results & Outcomes

| *Author(s)* | Primary Outcome(s) | Secondary Outcome(s) | Quantitative Data | Main Findings / Key Takeaways | Limitations / Biases |
|---|---|---|---|---|---|
| *Valle et al.*[10] | Wound healing; improved with some dressings (no pooled stats) | Mortality, QoL, pain, adverse events,data limited | Not consistently reported; mostly descriptive | Cellular, collagen, antimicrobial dressings may aid healing | Low study quality, inconsistent methods, limited outcome data |
| *Vermeulen et al.*[11] | No significant difference in complete wound healing (RD: 0.00, CI: −0.09 to 0.09); wound size reduction favored silver (P=0.034) | Antibiotic use (NS), adverse effects (8% vs 5%), odor/leakage (reduced with silver) | WMD −15.70 cm² (CI: −29.5 to −1.90); Pain P<0.0001 | Silver reduced wound size and odor, not complete healing | Short follow-up, unblinded, industry-funded, heterogeneity |
| *Palfreyman et al.*[12] | Ulcer healing RR 1.02 (CI 0.83–1.25) | Healing rates, cost, ulcer area reduction | RR: hydrocolloid vs. foam 0.98; hydrogel vs. low adherent 1.53 | No significant difference in healing among dressing types | Heterogeneity, small trials, inconsistent reporting |
| *Bouza et al.*[13] | Ulcer healing RR 0.90 (CI 0.85–1.15, P=0.9) | Withdrawals RR 1.20; AEs RR 1.20 | Modern vs. modern RR 1.13 | No significant difference between modern and conventional dressings | Small samples, low study quality, heterogeneity |
| *Nelson et al.*[14] | Healing, recurrence, adverse events | Pain relief, QoL, safety | Toe ulceration 6%; ABPI cutoff 0.8–0.9 | Compression effective, but optimal method unclear | Evidence quality variable; many low-certainty outcomes |
| *Franks et al.*[15] | Ulcer closure: Mepilex 66.7%, Allevyn 61.7% | Pain reduced in both (P<0.001) | HR 1.48 (CI: 0.87–2.54), P=0.15 | No significant healing difference; pain improvement | High withdrawal rate; underpowered |
| *Michaels et al.*[16] | Healing at 12 weeks: 59.6% (silver), 56.7% (control), P>0.05 | Recurrence, QALYs, cost, pain,NS | P=0.408; ICER: £489,250/QALY | No cost/efficacy advantage for silver dressings | Modest sample; clinician-selected dressings; underpowered |
| *Zhao et al.*[17] | RR 1.29 (CI 0.99–1.68, P=0.06) | Healing rate, infection, wound size | MD 0.23 cm²/day (P=0.004), MD 10.75% (P=0.02) | Silver improved short-term healing but not complete healing | Short follow-up, high cost, heterogeneous comparators |
| *O'Donnell et al.*[18] | Healing: Zinc 79% vs 56%, Apligraf 63% vs 48% | Time to healing, comfort, cost | Tegasorb 59% vs 15%, GM-CSF 57% vs 19% | Some dressings improved healing in selected trials | <49% trials high quality; heterogeneity |
| *Not stated (sponsored)*[19] | Healing 39% in both (P=NS) | Exudate, dressing frequency, granulation | Dressing change: 2.14 vs 3.34/week (P<0.0005) | Similar healing; better exudate control in polyurethane | Unblinded, variable compression, short duration |

## Discussion

Modern wound dressings have transformed chronic ulcer care by offering tailored approaches for diverse wound environments. Yet, their efficacy in promoting complete healing in chronic venous leg ulcers (VLUs) and arterial leg ulcers (ALUs) remains debatable. While some modalities show promise in wound bed optimization and symptom control, robust evidence supporting superior healing outcomes compared to standard care is lacking. Hydrocolloid dressings, though widely used for their occlusive, autolytic, and moisture-retaining properties, do not significantly outperform simple non-adherent alternatives. Multiple systematic reviews, including Palfreyman et al. and Bouza et al., found no statistical benefit in healing rates when hydrocolloids were compared to traditional low-adherence dressings (RR 1.02, 95% CI 0.83–1.25; RR 0.90, 95% CI 0.85–1.15, respectively) [12 13]. Moreover, their adhesion becomes unreliable in high-exudate wounds, a common feature of VLUs, leading to leakage and increased dressing changes. This limits their utility in the more challenging clinical scenarios, especially when used without compression. Foam dressings, particularly polyurethane variants, are widely adopted for managing exudate due to their absorptive and cushioning properties. However, Franks et al. found no significant differences in healing between two leading foam types (HR 1.48, 95% CI 0.87–2.54) [15]. While both dressings improved pain scores, neither was superior in ulcer closure. Notably, a 2002 multicenter trial comparing foam with hydro cellular dressings reported equivalent healing rates but superior exudate management in foam dressings (48% vs. 64% leakage; $P < 0.0005$) [19]. These results underscore foam dressings' practical advantages in fluid handling and wear time, making them ideal adjuncts to compression therapy in VLUs but not curative alone. Silver-impregnated dressings exemplify the divergence between symptom control and true efficacy. Their antimicrobial activity is beneficial in managing malodor and bioburden, as demonstrated by Vermeulen et al., who observed significant reductions in odor and wound size (relative wound reduction: 54.8% vs. 25.4%, $P = 0.034$) despite no difference in healing rates (RD 0.00, 95% CI −0.09 to 0.09)[11]. Zhao et al. expanded on this by noting faster area reduction (MD 0.23 $cm^2$/day, $P = 0.004$) and improved relative wound shrinkage (MD 10.75%, $P = 0.02$), though complete healing remained statistically indistinct (RR 1.29, $P = 0.06$) [17]. The results suggest silver may accelerate early healing but does not influence long-term closure. Cost-effectiveness is also unfavorable, with Michaels et al. estimating an incremental cost per QALY of £489,250, further discouraging routine use[16]. Hydrogel dressings, designed to hydrate dry or necrotic wounds, theoretically suit ALUs, which often present with ischemic eschar. Yet empirical support remains weak. Palfreyman et al. reported a non-significant trend favoring hydrogels (RR 1.53, 95% CI 0.96–2.42) [12], and their low exudate tolerance limits use in venous ulcers. However, when arterial flow is restored, hydrogels may assist granulation by maintaining a moist, low-shear environment conducive to angiogenesis. Alginate dressings, composed of calcium and sodium salts derived from seaweed, are especially effective for managing exudate and minor bleeding, attributes desirable in infected or heavily draining ulcers. Despite widespread clinical use, consistent evidence demonstrating improved healing is lacking. Valle et al. found variability across studies assessing alginates, with methodological flaws precluding strong conclusions[10]. Nonetheless, their utility in symptomatic control and compatibility with compression therapy makes them clinically valuable, particularly when exudate impedes dressing adherence or skin integrity. Collagen-based dressings aim to stimulate extracellular matrix production and support granulation, making them attractive in chronic non-healing wounds. Bouza et al. found modest trends toward efficacy (RR 1.13, 95% CI 0.86–1.47), although benefits were more apparent in venous than arterial ulcers[13]. Their biologically active matrix may be more effective where tissue perfusion is intact, limiting their use in ALUs unless combined with revascularization strategies. Importantly, collagen dressings are expensive and may require a longer duration of application to show benefit, a factor often not captured in short-term studies.

Honey-based dressings provide broad-spectrum antimicrobial and debriding action through osmotic and enzymatic activity. However, evidence remains anecdotal or based on small-scale trials. Issues like local irritation, allergic reactions, and inconsistent product formulations compromise standardization. Their appeal lies in topical infection management, but lack of cost-effectiveness and patient acceptability dampens enthusiasm for mainstream use. Negative Pressure Wound Therapy (NPWT), though lacking randomized trial support in vascular ulcers, may offer benefit as a post-debridement adjunct in large, complex wounds. Its mechanism, reducing interstitial edema, stimulating perfusion, and promoting wound contraction makes it a logical candidate for difficult-to-manage ulcers, particularly post-surgical or post-revascularization. Yet its reliance on specialized equipment, high cost, and limited portability curtails widespread use.

A broader challenge lies in the heterogeneity of outcome measures and trial designs, which muddies interpretation across dressing types. Nelson’s 2011 review emphasized the consistent efficacy of compression therapy but highlighted inconclusive results regarding dressing comparisons due to poor trial quality and inconsistent reporting[14]. Similar concerns were echoed by O'Donnell and Lau, who found only 5 out of 20 RCTs showed statistically significant improvements with modern dressings and noted that fewer than half met acceptable design standards[18]. These findings underscore the pressing need for high-quality, head-to-head trials with standardized endpoints, longer follow-up, and stratification by ulcer type and severity. The etiology of the ulcer, venous vs. arterial, remains the most critical determinant of treatment success. VLUs respond best to compression therapy, with dressings acting as supportive measures to control moisture and infection. Conversely, ALUs demand revascularization before any dressing can exert meaningful benefit. In ischemic environments, even the most advanced dressing cannot overcome perfusion deficits. This explains the poor performance of most dressings in ALUs, despite theoretical advantages. Cost, patient adherence, and dressing change frequency also influence clinical decisions. While dressings like polyurethane foams offer fewer changes and improved comfort, their marginal healing benefits suggest they are best reserved for exudate-heavy wounds. Similarly, silver and collagen dressings incur high costs without proportional benefit in healing rates, challenging their routine use in publicly funded healthcare settings. Ultimately, the principle of wound bed preparation (WBP), moisture balance, infection control, debridement, and edge advancement which remains central to chronic ulcer management. Modern dressings contribute to this paradigm but do not replace systemic and vascular interventions. Until consistent evidence emerges, clinical choices should prioritize ulcer characteristics: foam or hydrofiber for exudative VLUs, hydrogel or collagen for ischemic or dry ALUs post-revascularization, and silver dressings only for infected wounds requiring odor and microbial control.

## Conclusion

Modern wound dressings offer incremental, context-specific benefits in managing chronic venous and arterial leg ulcers, yet no single modality demonstrates clear superiority in achieving complete ulcer healing. While silver dressings reduce bioburden and wound area in the short term, their impact on full closure remains statistically insignificant. Foam and hydrofiber dressings enhance exudate management, supporting their use under compression in CVUs, whereas hydrogels and collagen-based products may assist granulation in ischemic or non-healing wounds. However, efficacy in ALUs remains limited unless vascular supply is corrected. The field is hindered by short follow-up durations, heterogeneity in trial design, and underrepresentation of complex real-world patients, such as those with diabetes, neuropathy, or socioeconomic barriers. Emerging technologies such as bioactive scaffolds, nanofiber matrices, and smart dressings with real-time biomarker sensing, hold promise for personalized wound care. Regenerative therapies including growth factor delivery, stem cell-infused dressings, and gene-activated matrices are under investigation. Future research must prioritize high-quality, pragmatic RCTs with diverse populations, longer follow-up, and rigorous cost-effectiveness analysis. Integration of artificial intelligence for wound monitoring and automated decision support may further revolutionize chronic ulcer management. Dressing selection should be individualized, aligned with wound pathophysiology, and incorporated within a multidisciplinary care model that includes revascularization, infection control, and patient education.

## References


1. Schneider C, Stratman S, Kirsner RS. Lower extremity ulcers. Med Clin North Am. 2021 Jul 1;105(4):663-79.
2. Franks PJ, Barker J, Collier M, Gethin G, Haesler E, Jawien A, Laeuchli S, Mosti G, Probst S, Weller C. Management of patients with venous leg ulcers: challenges and current best practice. Journal of wound care. 2016 Jun 1;25(Sup6):S1-67.
3. Maheshwari G. Chronic wounds: A rising public health concern. Wounds APAC. 2024;7(6).
4. Rice JB, Desai U, Cummings AKG, Birnbaum HG, Skornicki M, Parsons N. Burden of venous leg ulcers in the United States. Journal of Medical Economics. 2014;17(5):347-356. doi:10.3111/13696998.2014.903258
5. Zemaitis MR, Boll JM, Dreyer MA. Peripheral arterial disease. StatPearls - NCBI Bookshelf. Published May 23, 2023. https://www.ncbi.nlm.nih.gov/books/NBK430745/
6. Gul F, Janzer SF. Peripheral vascular disease. StatPearls - NCBI Bookshelf. Published June 6, 2023. https://www.ncbi.nlm.nih.gov/books/NBK557482/
7. O'Meara S, Cullum NA, Nelson EA. Compression for venous leg ulcers. Cochrane Database Syst Rev. 2009;(1):CD000265.
8. Guest JF, Ayoub N, McIlwraith T, et al. Health economic burden that wounds impose on the National Health Service in the UK. BMJ Open. 2015;5(12):e009283.
9. Iglesias CP, Nixon J, Cranny G, Nelson EA,

Hawkins K, Phillips A, Torgerson D, Mason S, Cullum N, *'Pressure relieving support surfaces (PRESSURE) trial: cost effectiveness analysis'* (2006) 332 *BMJ* 1416. DOI: 10.1136/bmj.38850.711435.7c PMID: 16740528 PMCID: PMC1479635

**10.** Valle MF, Maruthur NM, Wilson LM, et al. Comparative effectiveness of advanced wound dressings for patients with chronic venous leg ulcers: a systematic review. Wound Repair Regen. 2014;22(2):193-204. doi:10.1111/wrr.12151

**11.** Vermeulen H, van Hattem JM, Storm-Versloot MN, Ubbink DT, Westerbos SJ. Topical silver for treating infected wounds. Cochrane Database Syst Rev. 2007;(1):CD005486. doi:10.1002/14651858.CD005486.pub2

**12.** Palfreyman S, Nelson EA, Michaels JA. Dressings for venous leg ulcers: systematic review and meta-analysis. BMJ. 2007;335(7613):244. doi:10.1136/bmj.39248.634977.AE

**13.** Bouza C, Munoz A, Amate JM. Efficacy of modern dressings in the treatment of leg ulcers: a systematic review. Wound Repair Regen. 2005;13(3):218-229. doi:10.1111/j.1067-1927.2005.130302.x

**14.** Nelson EA. Venous leg ulcers. BMJ Clin Evid. 2011;2011:1902. PMCID: PMC3275133.

**15.** Franks PJ, Moody M, Moffatt CJ, et al. Randomized trial of two foam dressings in the management of chronic venous ulceration. Wound Repair Regen. 2007;15(2):197-202. doi:10.1111/j.1524-475X.2007.00205.x

**16.** Michaels JA, Campbell WB, King BM, et al. A prospective randomised controlled trial and economic modelling of antimicrobial silver dressings versus non-adherent control dressings for venous leg ulcers: the VULCAN trial. Health Technol Assess. 2009;13(56). doi:10.3310/hta13560

**17.** Zhao M, Zhang D, Tan L, Huang H. Silver dressings for the healing of venous leg ulcer: a meta-analysis and systematic review. Medicine (Baltimore). 2020;99(37):e22164. doi:10.1097/MD.0000000000022164

**18.** O'Donnell TF Jr, Lau J. A systematic review of randomized controlled trials of wound dressings for chronic venous ulcer. J Vasc Surg. 2006;44(5):1118-1125. doi:10.1016/j.jvs.2006.08.004

**19.** A randomized, controlled study to compare the effectiveness of two foam dressings in the management of lower leg ulcers. HMP Global Learning Network. Published online August 1, 2002. https://www.hmpgloballearningnetwork.com/site/wmp/content/a-randomized-controlled-study-compare-effectiveness-two-foam-dressings-management-lower-leg