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In-Home Management of Skin Tears by Community Paramedics: A Case Series Report From a Novel Pilot Intervention

ABSTRACT

Background

Skin tears are common in older adults, particularly those who are frail or experiencing age-related skin changes. In rural and remote regions, limited access to timely wound care can lead to delayed assessment, infection, prolonged healing, and preventable emergency department use. Community paramedicine programs have emerged as a strategy to address these gaps by providing timely, in-home care. This case series report evaluates a rural pilot program in which community paramedics managed skin tears from initial presentation through healing. The study examined feasibility, clinical effectiveness, and system-level impact in a region with limited home-care capacity.

Methods

We conducted a 9-month retrospective case series in Renfrew County, Ontario. We included patients referred for community paramedic assessment and management of skin tears. Data from electronic patient-care reports and quality reviews captured referral source, time to assessment, wound characteristics, interventions, need for escalation, healing duration, and resource use. Descriptive statistics summarized demographics, timelines, and outcomes. Chart review and provider feedback identified program enablers and challenges.

Results

Community paramedics managed 43 skin tears in 39 patients (mean age 87). All were assessed within 24 hours of referral, and 79% within 24 hours of injury. Hospital transport was avoided in 46% of encounters, and EMS activation was prevented in 51%. Only 10% required referral to specialized wound care. Among wounds followed to completion, mean healing time was 22 days with an average of 1.8 dressings per case. Challenges included exudate management and coordination across dispersed care teams.

Conclusions

Community paramedics can safely and effectively manage skin tears in the home, improving access and reducing reliance on emergency services in rural settings. This model offers a scalable, patient-centered approach to enhancing rural wound-care capacity.

Keywords: Community paramedic, emergency medical services, patient safety, skin tears, wound management

Prise en charge à domicile des déchirures cutanées par des paramédics communautaires : rapport de série de cas portant sur une nouvelle intervention pilote

RÉSUMÉ

Contexte

Les déchirures cutanées sont fréquentes chez les personnes âgées, particulièrement chez celles qui sont fragiles ou qui présentent des changements cutanés liés au vieillissement. Dans les régions rurales et éloignées, l'accès limité à des soins des plaies

en temps opportun peut entraîner un retard dans l'évaluation, des infections, une prolongation du temps de cicatrisation et un recours évitable aux services d'urgence. Les programmes de paramédecine communautaire sont apparus comme une stratégie permettant de combler ces lacunes en offrant des soins à domicile en temps opportun. Ce rapport de série de cas évalue un programme pilote en milieu rural dans le cadre duquel des paramédics communautaires ont pris en charge des déchirures cutanées depuis leur présentation initiale jusqu'à leur cicatrisation. L'étude a examiné la faisabilité, l'efficacité clinique et les répercussions sur le système dans une région où la capacité des services de soins à domicile est limitée.

Méthodes

Nous avons mené une série de cas rétrospective sur une période de neuf mois dans le comté de Renfrew, en Ontario. Nous avons inclus les patients orientés vers les services de paramédecine communautaire pour l'évaluation et la prise en charge de déchirures cutanées. Les données provenant des rapports électroniques de soins aux patients et des examens de la qualité comprenaient la source de l'orientation, le délai avant l'évaluation, les caractéristiques des plaies, les interventions, la nécessité d'une intensification des soins, la durée de cicatrisation et l'utilisation des ressources. Des statistiques descriptives ont été utilisées pour résumer les caractéristiques démographiques, les délais et les résultats. L'examen des dossiers et les commentaires des prestataires de soins ont permis de cerner les facteurs facilitant la mise en œuvre du programme ainsi que les défis rencontrés.

Résultats

Les paramédics communautaires ont pris en charge 43 déchirures cutanées chez 39 patients, dont l'âge moyen était de 87 ans. Tous les patients ont été évalués dans les 24 heures suivant leur référence, et 79 % l'ont été dans les 24 heures suivant la blessure. Le transport vers l'hôpital a été évité dans 46 % des interventions, et le recours aux services médicaux d'urgence (SMU) a été évité dans 51 % des cas. Seulement 10 % des patients ont dû être orientés vers des soins spécialisés des plaies. Parmi les plaies suivies jusqu'à leur cicatrisation complète, le temps moyen de cicatrisation était de 22 jours, avec une moyenne de 1,8 pansement par cas. Les défis comprenaient notamment la gestion de l'exsudat et la coordination entre les équipes de soins réparties sur un vaste territoire.

Conclusions

Les paramédics communautaires peuvent prendre en charge les déchirures cutanées à domicile de façon sécuritaire et efficace, améliorant ainsi l'accès aux soins tout en réduisant le recours aux services d'urgence dans les régions rurales. Ce modèle offre une approche évolutive et centrée sur le patient permettant d'accroître la capacité en matière de soins des plaies en milieu rural.

Mots-clés : paramédecine communautaire, services médicaux d'urgence, sécurité des patients, déchirures cutanées, prise en charge des plaies

Conflicts of Interest

No authors note any competing interests as it relates to this study.

Availability of Data and Materials

The data supporting the findings are available upon request from the corresponding author.

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INTRODUCTION

Skin tears are acute, traumatic wounds that increase in prevalence in older adults due to physiologic changes associated with aging.¹ These tears typically occur on the upper and lower extremities and are among the most common skin complications, occurring more frequently than pressure ulcers.^{2,3} Despite this, skin tears often go unreported,⁴ although prevalence estimates range from 4.5% to 19.5% across all age groups,^{5,6} with increased rates in the elderly.⁷ Strazzieri-Pulido et al. demonstrated an incidence of between 2.23% and 92% in long-term care facilities.⁸ Skin tears can reduce quality of life, cause pain, and increase anxiety, costs, and length of hospital stays when coupled with emergency department visits.^{7,9} Poorly managed skin tears can lead to chronic wounds and infection.^{9,10}

The International Skin Tear Advisory Panel (ISTAP) defines a skin tear as "a traumatic wound caused by mechanical forces, including removal of adhesives. Severity may vary by depth but not extending through the subcutaneous layer."¹⁰ ISTAP further defines a skin flap as "a portion of the skin (epidermis/dermis) that is unintentionally separated, partially or fully, from its original position due to shear, friction, and/or blunt force. This concept is not to be confused with tissue that is intentionally detached from its place of origin for therapeutic use, e.g., surgical skin grafting."¹¹ Skin tears are often under-recognized and underreported, potentially due to a lack of standardized classification and the absence of a dedicated ICD-10 code.⁹ During the preparation of this manuscript, the Province of Ontario approved the inclusion of a dedicated skin tear management code in the provincial Ambulance Call Report (ACR), recognizing skin tears as a distinct prehospital clinical encounter.¹² This represents an important step toward improving the identification and tracking of skin tears in the out-of-hospital setting and will facilitate future evaluation of their incidence, management, and outcomes.

Risk factors for skin tears include fragile or edematous skin, increased moisture, friction, trauma, malnutrition, dehydration, reduced mobility, and cognitive impairment.^{9,13} Patients at highest risk often have a history of skin tears, chronic steroid or nonsteroidal anti-inflammatory drug use, advanced age, or dependence on others for activities of daily living. Additional

contributing factors include tactile sensory loss, polypharmacy, use of assistive devices, and loss of subcutaneous tissue.^{9,13}

Previous Skin Tear Initiatives

Prior work in long-term care demonstrated that residential staff could manage up to 93% of skin tears, while paramedics have been shown to manage up to 50% of cases in home settings.¹⁴ These initiatives improved patient quality of life, empowered staff, and reduced the need for referrals to external healthcare providers while also decreasing costs and complications.¹³ Upon initiation of this pilot project, a regional scan showed a dearth of similar paramedic-led initiatives to manage skin tears in the home. A recurring anecdotal observation from community paramedics was that skin tears presenting to emergency departments were often managed in ways perceived to be inconsistent with contemporary evidence-based guidelines. This perception served as one of the factors motivating us to develop this program.

Lessons Learned

ISTAP notes that early evaluation of a skin tear is critical, ideally within the first hour after injury, with rapid approximation of skin flaps. However, an Australian aged-living home extended this window to 72 hours with positive outcomes.¹⁵ Common challenges in home care include inappropriate dressing selection and lack of resources, which can delay healing.¹³ When appropriate dressings are available and applied correctly, healing times improve across wound types.¹⁵ Guest et al. emphasized that optimal management at first assessment is essential.¹⁶

ISTAP recommends keeping dressings in place for up to 7 days, maintaining a moist wound environment, managing exudate, protecting peri-wound skin, and conforming to the wound to prevent exudate pooling.¹⁷ Guidance is also provided to ensure the protection of the skin tear flap when changing dressings by clearly marking either the shape of the skin tear or the direction of dressing removal on the exterior of the dressing. Prevention and timely intervention are key to reducing pain, morbidity, and mortality associated with skin tears.¹ While skin tears are preventable, they respond well to early and appropriate management, which improves the patient experience, decreases cost, and increases provider confidence.

METHODS

Pilot Location

This pilot program took place in Renfrew County, Ontario, Canada, a rural region just west of Ottawa. The paramedic coverage area spans over 7,000 km² and serves a population of just over 106,000 residents with a population density of 14.5 people per km². At peak coverage, the region is staffed with 12 transport-capable ambulances (designated for response to emergency 9-1-1 calls) supported by an average of 7 community paramedics who are single practitioners in nontransport-capable response vehicles. Community paramedics operate primarily in nonemergency, community-based roles, providing assessment, treatment, and referral services to improve access

to care and reduce unnecessary emergency department utilization. Regional home-care support in the form of personal support workers and nurses is facilitated provincially through Ontario Health atHome and contracted through multiple other agencies. Specially trained nurses provide wound care across the region and deliver in-home services.

The region's size and sparse population density pose logistical challenges for wound management, including extended travel times and variable access to dressing supplies or allied health support. However, these same characteristics made it an ideal setting to test community paramedic-led skin tear management, as the program's outreach capability could bridge significant gaps in access and continuity of care.

Prepilot Preparation

Existing clinical practice guidelines were reviewed, focusing on acute, short-term interventions to accommodate the lack of local program capacity to manage long-term wound care. Key limiting factors, such as patient presentation, environment, wound type, and comorbidities, were identified. Evidence from *Foundations of Best Practice for Skin and Wound Management*,¹⁸ British Columbia Health's Guideline Summary for Skin Tear Management, and consultations with local experts at Ontario Health atHome informed the approach. A working group of community paramedics, registered nurses, and wound-care nurses collaborated to align practices, select appropriate dressings, and define risk boundaries. Input from Ontario Health atHome, Home and Community Care Support Services ensured the pilot reflected best practices and local resources.

Scope of Skin Tear Pilot Project

Based on preimplementation planning, eligibility criteria were established to restrict community paramedic skin tear management to noncircumferential skin tears smaller than the largest dimensions of the supplied medicated dressings (9.8 cm by 10.2 cm). Bleeding must be controllable, either by on-scene ambulance paramedics (following an emergency 9-1-1 call), community paramedics, or other individuals present. Causative factors for the skin tear must be isolated, mechanical, and with minimal risk of contamination, infection, or tetanus exposure. The patient must be cognitively intact and able to follow a treatment plan, or resources must be available to support the patient at home to facilitate the care plan. The skin tear must be less than 24 hours old and ideally kept moist and clean until the dressing can be applied.

Pilot Program Development and Deployment

Based on our preimplementation evidence, we developed two implementation and referral guidelines: one for ambulance paramedics and one for community paramedics/community partners. Recognizing that skin tear management could generate appropriate referrals from 9-1-1 calls (akin to 1-1-2, or 0-0-0 in other international jurisdictions), we established a structured referral process. After assessing indications and contraindications, ambulance paramedics may contact the Community Paramedic Program to request an urgent visit

within 24 hours. If the 24-hour window cannot be met based on staff availability, transport to the hospital is recommended. To support this process, detailed first-aid instructions are provided to ambulance paramedics, emphasizing the use of moist, sterile, non-stick dressings secured with roller gauze until the community paramedic follow-up.

The community paramedic guidelines outline standardized steps for short-term management, including assessment, irrigation, flap repositioning if appropriate, and dressing application. They also provide criteria for determining when referral to complex wound-care services is warranted. Decision-making factors include patient cooperation, independence, cognitive status, and mobility, coupled with existing support services and a history of previous skin tears with protracted healing.

Local home-care partners and the working group collaborated to source appropriate dressings, inclusive of transparent, composite wound dressings, and to assemble wound-care kits stocked with sterile water for cleaning, single-use tweezers, sterile cotton-tipped swabs, and laminated reference materials. The working group and selected paramedics reviewed all draft guidelines and kits to ensure accuracy and safety and incorporated revisions in response to their feedback.

Education and training were delivered through in-person sessions, live demonstrations, and instruction from a wound-care nurse. The content included skin tear pathophysiology, risk factors, and healing principles. Implementation was supported through ongoing communication during virtual shift meetings, ensuring a consistent understanding across ambulance and community paramedic teams.

Final guidelines were distributed in both print and digital formats for accessibility. Utilization was monitored through standardized after-action reports, each reviewed within 24 hours to identify individual patient concerns or program shortfalls. Real-time feedback was provided to staff to reinforce adherence and promote evidence-based practice throughout the implementation phase.

Ethics and Data Governance

This project was conducted as a quality-improvement and program-evaluation initiative within the County of Renfrew Paramedic Service to evaluate and improve the management of skin tears within the community paramedicine program. The project was determined to be a quality-improvement activity rather than research involving human participants. In accordance with Article 2.5 of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans–TCPS 2 (2022), quality-improvement and program-evaluation activities conducted exclusively for assessment, management, or improvement purposes do not constitute research and therefore do not fall within the scope of Research Ethics Board (REB) review.¹⁹ Formal REB approval was therefore not required. All data were collected as part of routine clinical care and quality assurance processes and were de-identified prior

to analysis. Given the retrospective and de-identified nature of the project, individual patient consent was not required.

RESULTS

Over the 9-month pilot period, December 2023–September 2024 (Table 1), community paramedics managed 43 skin tears in 39 patients across Renfrew County. The average patient age was 87 (range: 73–104), with a nearly even gender distribution (22 males, 17 females). Most injuries (67%) occurred on the lower arm, followed by the lower leg (21%).

Nearly half of all referrals (49%) originated from 9-1-1 ambulance paramedics, while 46% were initiated through the community paramedic non-urgent call line. All wounds were assessed within 24 hours of notification, and 79% within 24 hours of injury, demonstrating rapid response capability even in a large rural service area.

The program demonstrated a substantial health-system impact: 51% of encounters prevented the use of 9-1-1 services, and 46% prevented hospital transport. Only 1 patient (3%) required emergency department referral. Of the total cases, 69% were managed entirely by paramedics, 18% involved preexisting deferred care, and 10% were newly referred to wound-care specialists due to delayed healing or provider comfort level.

For wounds managed entirely from injury to healing under paramedic supervision, the mean healing time was 22 days (range: 8–33), requiring an average of 1.8 dressings per case. These results are comparable to healing times reported in long-term care and home-care settings. Overall, the data indicate that community paramedics successfully provided safe, timely in-home management for most skin tears, reducing reliance on emergency services and demonstrating strong integration with existing home-care systems.

DISCUSSION

This pilot demonstrated that community paramedics can play a meaningful role in managing acute skin tears in the home, reducing the need for emergency department visits and hospital transports. Nearly half of the encounters in this study prevented a 9-1-1 response or hospital transfer, confirming that wound care delivered by community paramedics can mitigate system pressures while maintaining patient safety. These results align with prior reports that paramedics can manage up to half of wound-related presentations in the community¹⁴ and extend this evidence by demonstrating feasibility in a rural, low-density population. Community paramedicine has a history of collaborating with primary-care providers to manage complex chronic disease.^{20–23} Additionally, many community paramedic programs have incorporated either interventions or follow-up for injurious or noninjurious falls in frail older adults.^{23–29} Our findings logically extend these findings and should inform team-based approaches to primary care in which timely, responsive, “first contact” interactions between

Table 1: Summary of Data (December 2023–September 2024)

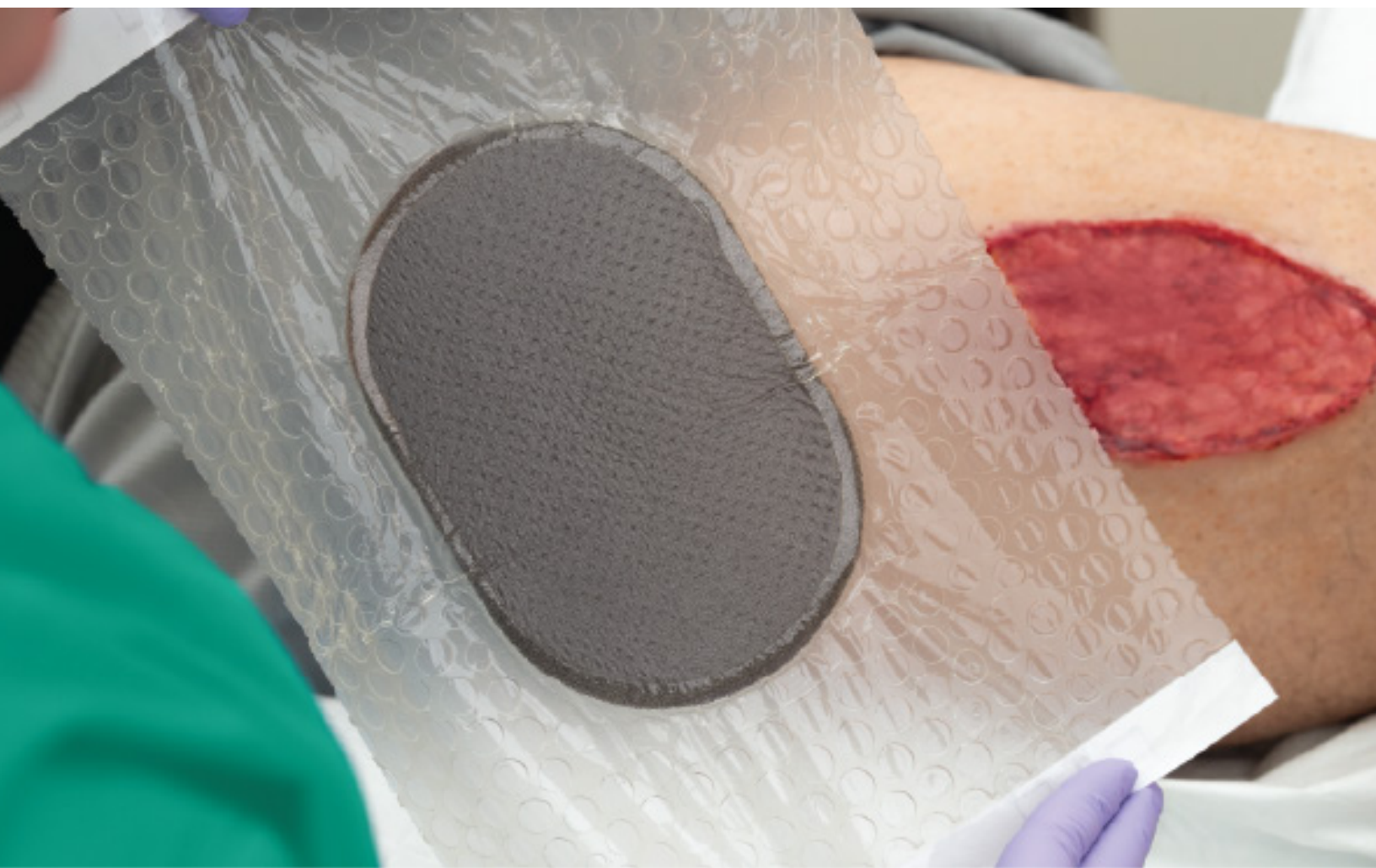
CATEGORY	MEASURE	RESULT
Patient Characteristics	Total patients	39
	Total skin tears managed	43 (4 patients had multiple)
	Average age (range)	87 (73–104)
	Gender	Male: 22 (56%)/Female: 17 (44%)
Location of Skin Tear	Lower arm	29 (67%)
	Upper arm	4 (9%)
	Lower leg	9 (21%)
	Other	1 (2%)
Referral Source	9-1-1/Ambulance crew	19 (49%)
	Nonurgent community paramedic line	18 (46%)
	Community paramedic staff	2 (5%)
Timeliness of Care	Wound assessed within 24 hours of notification	100%
	Wound assessed within 24 hours of injury	34 (79%)
System Impact	Prevention of 9-1-1 use	20 encounters (51%)
	Prevention of hospital transport	18 encounters (46%)
	Transport to hospital	1 encounter (3%)
Care Outcomes	Managed entirely by community paramedics	27 (69%)
	Referral to wound-care services	4 (10%)
	Preexisting or deferred care	7 (18%)
	Mean healing time (range)	22 days (8–33)
	Average dressings per wound (completed cases)	1.83 (range 1–5)
	Average dressings (partial cases)	1.76 (range 1–9)
Qualitative Findings	Common challenges	Exudate management, delayed coordination, prolonged healing
	Paramedic-reported confidence	High; 60% of interactions noted no provider concerns

Note. “Prevention of 9-1-1 use” refers to cases in which community paramedic intervention avoided an emergency response. “Managed entirely by community paramedics” indicates wounds assessed, dressed, and followed to healing without additional referral.

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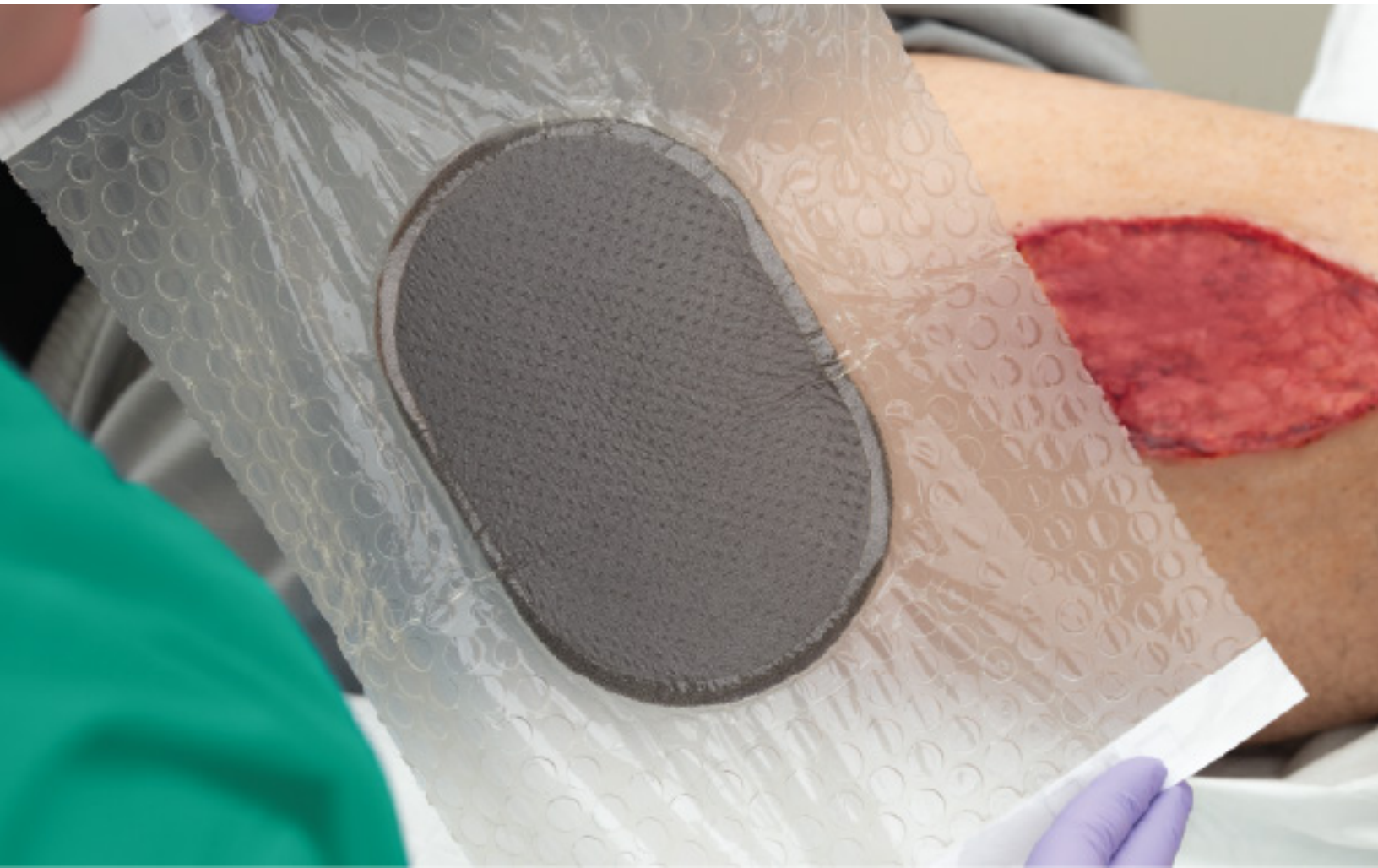
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patients and paramedics promote improved coordination and continuity with family physicians and nurse practitioners.

Healing outcomes in this pilot were comparable to those reported in home-care and long-term care settings, with an average healing duration of 22 days and a low referral rate (10%) to specialized wound care. This suggests that, when properly trained and supported, community paramedics can deliver high-quality wound care consistent with established best practices.^{3,4} The 100% assessment rate within 24 hours of notification also highlights the value of a mobile, responsive paramedic model for timely wound management.

Challenges noted by providers, such as exudate control, delayed follow-up due to coordination gaps, and limited dressing options, underscore the importance of infrastructure and supply-chain planning in community wound programs. These issues reflect findings from Mangan and Shoreman and Jansz et al., who identified resource availability and correct dressing choice as key determinants of healing outcomes.^{13,15}

A strength of this pilot was the strong interprofessional collaboration with home-care nurses and Ontario Health at Home, which ensured guideline alignment and safe practice boundaries. The pilot was designed to tailor wound-care best practices to a rural setting and improve access to care for a predominantly older, frail patient group. However, we also intentionally limited the range of dressings and eligibility criteria. These im-

plementation decisions, combined with the small sample size, limit the generalizability of the findings. Still, by reporting our preliminary results, we are establishing a basis for further evaluation. For example, a quasi-experimental study could evaluate expanded supply kits and inclusion of more complex wound types. Similarly, we recognize that a larger sample is warranted. Additionally, formal cost and patient satisfaction analyses would help quantify system and individual benefits.

Overall, this pilot reinforces the role of community paramedicine as a viable, scalable solution for low acuity wound management in rural and underserved settings. By integrating wound care into paramedic practice, healthcare systems can improve accessibility, continuity, and efficiency while optimizing patient experience.

CONCLUSION

Community paramedics can safely treat selected skin tears at home, reducing hospital trips and improving care continuity in rural areas. The model strengthens collaboration among nurses, wound specialists, and paramedics, offering faster assessment, earlier intervention, and timely referral when needed. The results support integrating wound management into community paramedicine to enhance outcomes and system capacity. Future priorities include expanding training, broadening dressing options, and studying cost-effectiveness and long-term healing. ●



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