

Applying T.I.M.E. to practice; simplifying exudate management

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Background and aims

- A systematic approach to wound assessment should be utilized to assess patients with wounds and implement appropriate treatment¹
- T.I.M.E. CDST, published in 2019, is easy to adopt in practice to help select the right dressing for the patient at the right time²
- Furthermore, 'shared care' support tools can help navigate conversations with patients and caregivers who want more involvement in their wound care³
- Three case studies show utility of T.I.M.E. CDST and the impact of treatment selection on managing their wounds

Methods and patients

- Two wound, ostomy, and continence nurses show best practice for assessment of wound management using T.I.M.E. CDST²
- Cases 1 and 2 from a community based acute care facility demonstrate how a decision tree (Figure 1) helped to identify the best approaches to manage over-/under-production of exudate for both patients and optimize treatment outcomes
- Case 3 demonstrates managing a challenging surgical wound in a community setting using a 'shared care' approach³ where the patient managed some of their dressing changes under careful guidance

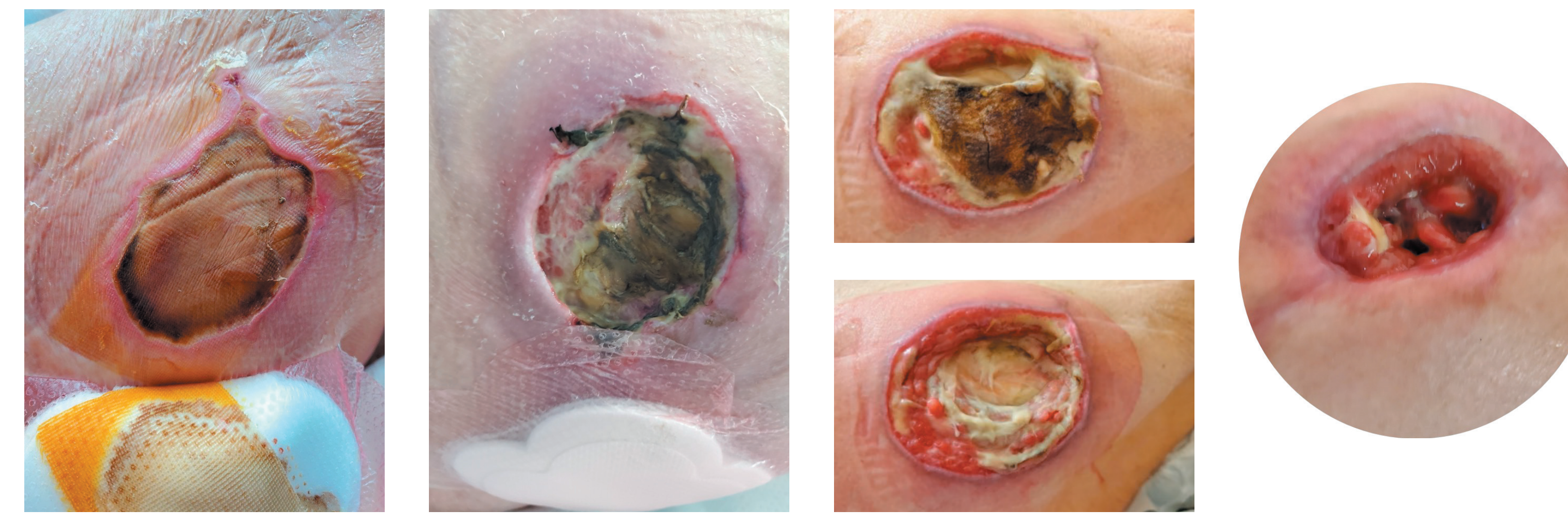
Wound type	Depth	Need	Recommended dressing/product	
			No/low exudate levels	Moderate/high exudate levels
Closed wounds	No depth	Cover	Non adhesive foam dressing ^a Silicone foam dressing ^b	Non adhesive foam dressing ^a Silicone foam dressing ^b
Dry eschar on lower extremities & feet	Unknown depth	Contact layer Cover	Povidone-iodine ^c Absorbent padding/ abdominal pad ^d	Povidone-iodine ^c Absorbent padding/ abdominal pad ^d
Open, infected wounds	Superficial	Contact layer	Silver mesh dressing ^d with a hydrogel ^e Chlorhexidine non adherent mesh ^f	Silver mesh dressing ^d Chlorhexidine non adherent mesh ^f Iodine-based dressing ^g Silver hydrofiber ^h
		Cover	Absorbent padding ^d Non adhesive foam dressing ^a Silicone foam dressing ^b	Abdominal pad ^d Non adhesive foam dressing ^a Silicone foam dressing ^b
	Deep and/or tunnelling	Contact layer	Silver mesh dressing ^d	Silver mesh dressing ^d Silver hydrofiber ^h
		Cover	Absorbent padding ^d Non adhesive foam dressing ^a Silicone foam dressing ^b	Abdominal pad ^d Non adhesive foam dressing ^a Silicone foam dressing ^b
Open wounds, not infected	Superficial	Contact layer	Hydrogel dressing ^e Non adherent mesh ^f	Non adherent mesh ^f Calcium alginate dressing ⁱ Hydrofiber dressing ^h
		Cover	Absorbent padding ^d Non adhesive foam dressing ^a Silicone foam dressing ^b	Abdominal pad ^d Non adhesive foam dressing ^a Silicone foam dressing ^b
	Deep and/or tunnelling	Contact layer	Hydrofiber dressing ^h	Hydrofiber dressing ^h
		Cover	Absorbent padding ^d Non adhesive foam dressing ^a Silicone foam dressing ^b	Abdominal pad ^d Non adhesive foam dressing ^a Silicone foam dressing ^b

Figure 1. Wound management decision tree utilized at North York General Hospital to simplify wound management

^aALLEVYN[®] LIFE NON ADHESIVE Foam Dressing; ^bALLEVYN[®] LIFE Foam Dressing; ^cTelpha[™] dressing; ^dACTICOAT[™] FLEX 3 Antimicrobial Barrier Dressing; ^eINTRASITE[™] GEL Hydrogel Wound Dressing; ^fBACTIGRAS[™] Medicated Tulle Gras; ^gIODOSORB[™] Cadexomer Iodine Dressing; ^hDURAFIBER[™] Ag Absorbent Gelling Fibrous Dressing; ⁱJELONET[™] Paraffin Gauze Dressing; ^jALGISITE[™] M Dressing; ^kDURAFIBER[™] Absorbent Gelling Fibrous Dressing. ^aPovidone-iodine and abdominal pads are sourced from various providers.

Case study 1

- Male, 74 years old, with an unstageable pressure injury on the hip and head injuries related to a fall (lying on the floor for ~3 days)
- Medical history: Type 2 diabetes, hypertension, hypothyroidism, acute kidney injury, osteoarthritis and atrial fibrillation; taking an oral anticoagulant (apixaban)
- Dehydrated wound due to use of an iodine-based sheet — wound was dry, leathery, ischemic and sloughy; some purulent discharge
- Treatment plan and outcome are shown in Figure 2 (A–D)

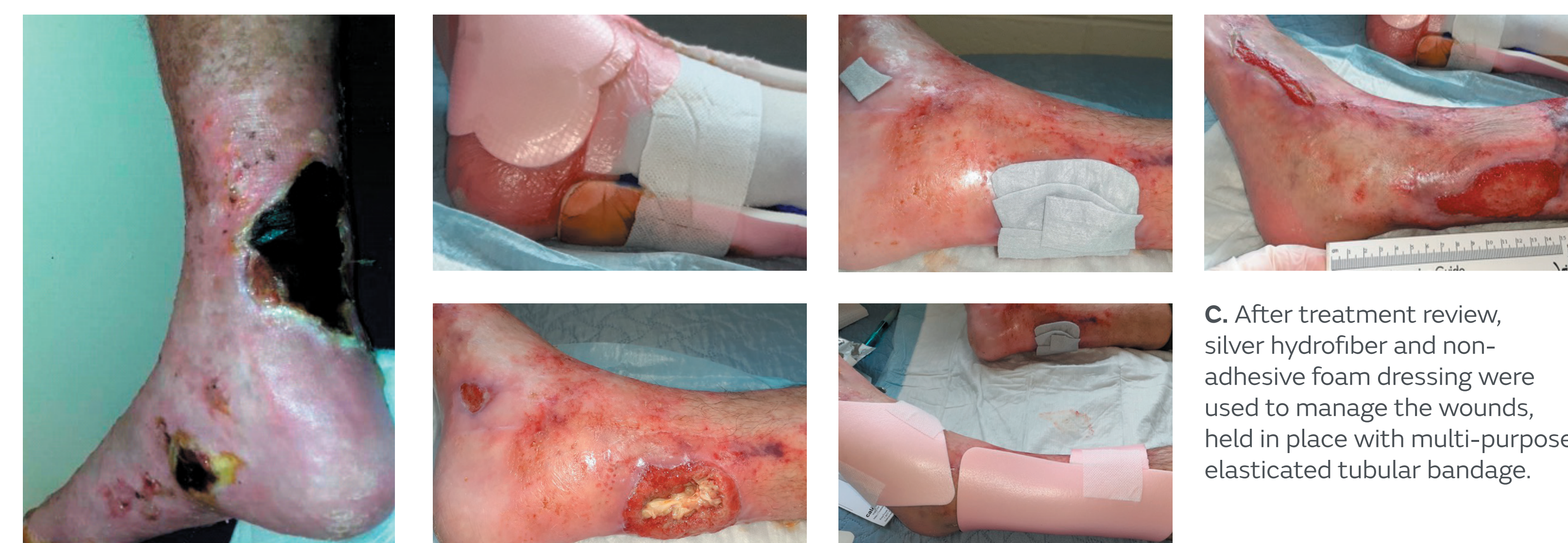


A. Pressure injury (unstageable) at presentation. B. Pressure injury after initial management using silicone foam dressing, with silver mesh dressing and hydrogel every 2 days. C. Improvements in wound healing progression using autolytic debridement. No deterioration of periwound skin or maceration. D. At discharge (6 weeks after hospitalisation) the treatment plan was changed to calcium alginate dressing with silicone foam dressing every 3 days.

Figure 2. Treatment plan and outcome applying T.I.M.E. CDST and a decision tree (see Figure 1) — low exudate levels

Case study 2

- Male, 30 years old, with two large lower limb ulcers (heel and foot)
- Medical history: hepatitis C+, asthma, nephrolithiasis, infective endocarditis, MRSA+, depression, opioid use, recent cardiac tricuspid valve replacement
- Hospitalized for ~2 months, recent use of vancomycin (i.v.), visible tendon (>2cm wound depth around tendon), slight tunnelling, moderate to large drainage, seropurulent discharge
- Follow up was difficult as the patient was sometimes uncontactable
- Treatment plan and outcome are shown in Figure 3 (A–C)



A. Lower limb ulcers at presentation. B. Dressings had been applied, but were not suitable for the wound profiles and were unable to manage the exudate levels appropriately. C. After treatment review, silver hydrofiber and non-adhesive foam dressing were used to manage the wounds, held in place with multi-purpose elasticated tubular bandage.

Figure 3. Treatment plan and outcome applying T.I.M.E. CDST and a decision tree (see Figure 1) — high exudate levels

Case study 3

- Female with ulcerative colitis and a perianal wound (present for >1 year) that occurred after an initial abdominoperineal resection failed to close
- Wound had 10cm tunnels requiring daily wound care and lengthy hospital stays
- Patient had elective surgery to reopen the incision, perform wound wash out and reattempt primary wound closure; risk of dehiscence was considered high
- Treatment plan and outcome are shown in Figure 4 (A–D)



A. Second attempt at wound closure after a failed abdominoperineal resection. Single use negative pressure wound therapy* used to bolster the incision line and help avoid dehiscence. B. Traditional NPWT (tNPWT)[†] with soft port applied to dehisced wound (3.0cm wide x 5.5cm deep, but 13.0cm at the deepest point) 2 weeks after surgery using black foam and an antimicrobial dressing. C. At treatment review, wound healing was not progressing as expected, so the incision was re-opened to address the underlying tunnelling. Treatment with tNPWT[†] and black foam was continued. D. Perianal wound after discontinuation of traditional NPWT[†] (depth 1.1cm, opening 1.0 x 0.2cm). Ongoing use of antibiotics and silver mesh dressing secured with a secondary silicone foam dressing to achieve full closure.

Figure 4. Treatment plan and outcome applying T.I.M.E. CDST and a decision tree (see Figure 1) with successful use of NPWT

*PICO[®] sNPWT; [†] RENASYS[®] tNPWT with Soft Port

Conclusion

- Wound management decision tools can facilitate treatment selection and discussion guides can help to identify patients and caregivers who have the confidence to take on more responsibility for their wound management plan
- Real-world use of the T.I.M.E. CDST, evidence-based practice and ongoing re-evaluation of wound closure progression can simplify wound management

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Abbreviations: CDST = Clinical Decision Support Tool; MRSA = Methicillin-resistant *Staphylococcus aureus*; NPWT = negative pressure wound therapy; T.I.M.E. = Tissue Infection/Inflammation Moisture Edge.

References: 1. WUWHS Consensus Document on Exudate Management. *Wounds Int.* 2019. Available at: www.woundsinternational.com; 2. Moore Z, et al. *J Wound Care.* 2019;28(3):154–161. 3. Loney AMC. *Wounds Int.* 2023;14(2):46–53.