Reducing unwarranted variation in wound care across a local healthcare economy

KEY WORDS

- Chronic wounds
- Doncaster Wound Care Alliance
- National Wound Care Strategy programme
- Wound care

Guest et al (2015) identified the need to reduce unwarranted variation in the assessment and treatment of wounds across the patient pathway. Integrated care across Doncaster identified the same need locally. After discussion with a number of stakeholders, organisations and services that provided wound care interventions, to identify how Doncaster could move forward to reduce unwarranted variations and a Doncaster Wound Care Alliance was formed. The Alliance developed a tiered service model, a universal competency-based education programme, formulary and clinical pathways, with the aim of enabling patients living with a wound in Doncaster to have access to a service that was responsive to patient centred specialist need to deliver advice and provide high quality, evidence-based interventions by highly skilled and trained healthcare professionals.

KELLY MOORE
Skin Integrity Lead Nurse, Doncaster and Bassetlaw teaching Hospitals NHS Foundation Trust

MICHAELA DELAHUNTY
Tissue Viability and Lymphoedema Clinical Lead, Rotherham Doncaster and South Humber NHS Foundation Trust

In 2020, Guest et al identified that the NHS managed an estimated 3.8 million patients with a wound in 2017/18. This equates to a 71% increase in the annual prevalence of wounds between 2012/13 and 2017/18. Guest and colleagues (2015) had previously identified the need to reduce unwarranted variation in the assessment and treatment of wounds across the patient pathway. This data was to be the underpinning of the Leading Change, Adding Value Nursing and Midwifery framework (2016) and subsequently the National Wound Care Strategy Programme (NWCSP, 2020) for England.

Adderley et al (2017) state that a key factor in reducing unwarranted variation in the assessment and treatment of wounds is the implementation of patient focused wound care initiatives through clinical pathways. This may require integrated care with a number of different stakeholders to overcome traditional barriers to change across the healthcare economy. For clinical pathways to be effective, professional development is required. This ensures that the healthcare professionals providing wound interventions have relevant and up-to-date evidence-based knowledge to deliver the care effectively, in a timely manner and in the right place (NHS RightCare Scenario, 2017). Nurses in the UK are required to engage in continuous learning in order to maintain competence as a means of keeping their license with their professional body (Griffith and Tengnah 2020).

It can be suggested that enabling organisations to work together and respect different perspectives empowers and assists stakeholders to work effectively to address current challenges, to help improve patient outcomes. In 2018, The Skin Integrity Team (SIT) at Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust (DBTH) began to work collaboratively with stakeholders to reduce unwarranted variation in the assessment and treatment of wounds, by implementing consistent patient-focused wound care initiatives to achieve higher quality care and improve outcomes for patients (*Figure 1*).

Understanding the problem

In 2018, SIT held discussions with Doncaster Clinical Commissioning Group (CCG) (now part of the South Yorkshire Integrated Care Board) about changing how wound care interventions were delivered due to a number of factors:

- An outpatient clinic they were managing was providing wound care interventions for patients that would benefit from having care delivered in a different environment, such as their own home or in their local area with their GP, rather than

Table 1. Stakeholders of the Doncaster Wound Care Alliance

Organisation	Team	Job role relating to wound care in 2019
Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust (DBTH)	The Skin Integrity Team	Hospital based service which aimed to provide specialist advice, knowledge and comprehensive assessment and treatment plans for patients with wounds whilst they are an inpatient or requiring outpatients involvement at the hospital
RDaSH	The Tissue Viability and Lymphedema Team	Community based service which aimed to provide specialist advice, knowledge and comprehensive assessment and treatments for tissue viability wounds care management and lymphoedema for residents' living in their own home or in a care home with or without nursing
	The Doncaster Community District Nursing Team	Community based service that aimed to provide assessment and treatment for patients with a wound that are housebound living in their own home or in a care home without nursing. They worked in conjunction with the Tissue Viability and Lymphoedema Team
	Podiatry Foot Protection Service	Podiatry clinics providing assessment, evaluation and treatment for patients with foot conditions that meet the service assessment criteria
Primary Care Doncaster (PCD)	Practice Nurses	Providing assessment and treatment for patients with a wound that were non-house-bound living in their own home. Working independently but dependent on the General Practice aim and business plan
Doncaster CCG (Now part of the South Yorkshire Integrated Care Board)		Commissioned services in the community for wound care services to be provided
FCMS	Doncaster Urgent Treatment Centre (UTC) & GP Out of Hours service.	Provided out of hours general practice interventions for Doncaster

travelling and being reviewed in a secondary care environment
- The published Guest et al study (2020)
- The Leading Change, Adding Value Nursing and Midwifery framework (2016).

Understanding the current position and root cause

Services were mapped and demand modelled, to allow discussion around gaps and variations across the patients' potential wound care journey. It was identified that the wound care services were all managed separately in relation to leadership, management, finances, education, policy adherence and communication. Several barriers were identified through discussion that contributed:

- No agreement of which organisations provided wound care interventions, and at what level. This included GPs all delivering a different service, with some not offering any wound care interventions at all
- No clear leadership and management or agreed funding/commissioning that had the oversight of all the wound care services
- No consistency in the wound care interventions provided, education provision or communication and route of referrals.

It was recognised that further discussions and planning was needed to include multiple wound care services in Doncaster (*Table 1*). We identified and agreed to embark on a quality improvement journey to develop an integrated model for wound care that would be co-produced, with the aim of streamlining the patients potential wound care journey across acute, community and primary care. All the stakeholders came together to form the Doncaster Wound Care Alliance (WCA), with several members seen in *Figure 2*.

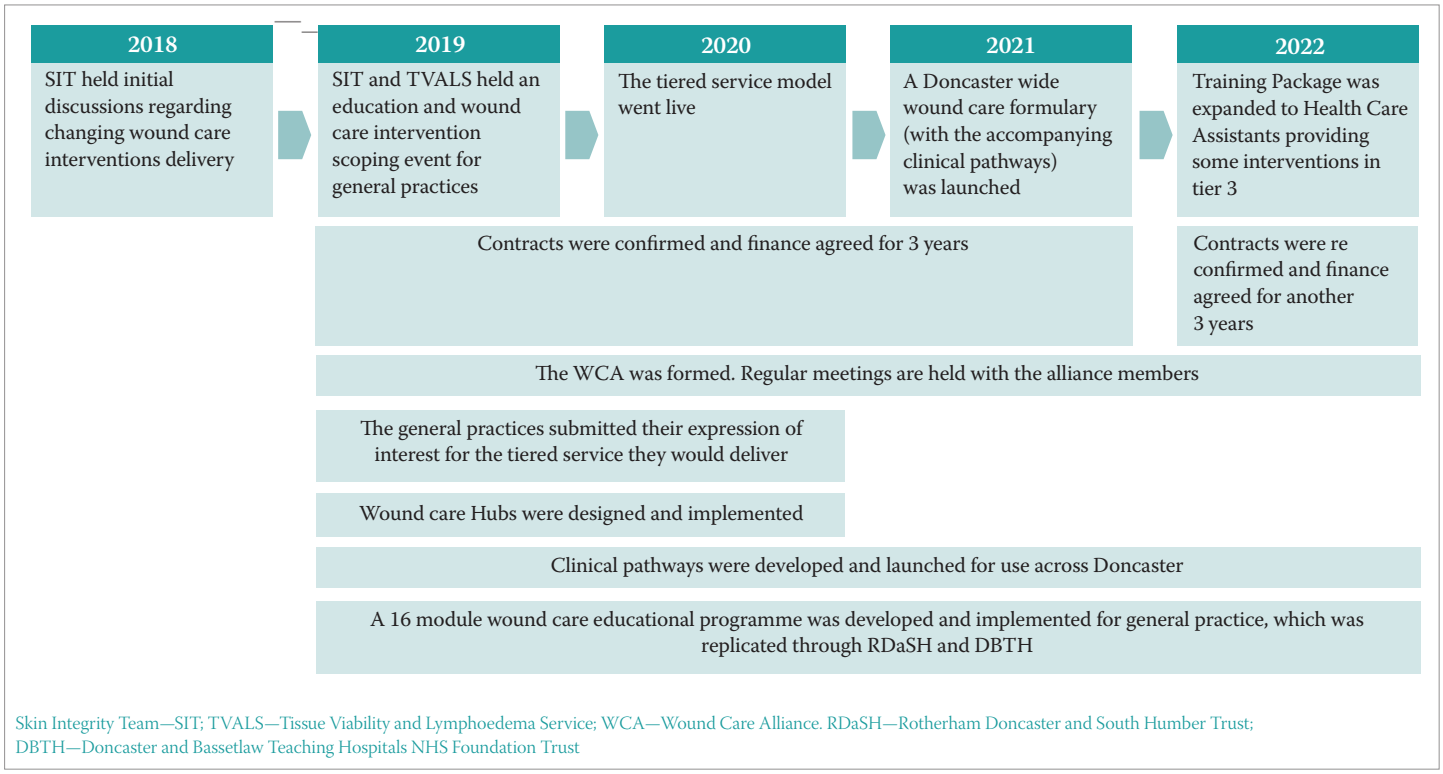
Planning and design

Plans were put in place to gain an engaged and integrated, supported model of working, underpinned by shared clarity to enable a more consistent and equitable approach to wound care across providers. The plans included agreement on:

- Management and leadership of the alliance and processes
- Finance and commissioning
- Education provision
- Policy adherence
- Communication.

Management and leadership of the alliance

The Doncaster WCA identified that system leadership was required to ensure patients living with



Skin Integrity Team—SIT; TVALS—Tissue Viability and Lymphoedema Service; WCA—Wound Care Alliance. RDaSH—Rotherham Doncaster and South Humber Trust; DBTH—Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust

Figure 1. The Journey map of the Doncaster Wound Care Alliance (WCA)

a wound had access to appropriate services. It was agreed that the overarching management would be undertaken by the contractors and commissioners, therefore joint management between Doncaster CCG and Primary Care Doncaster (PCD) was started, with allocated management and leadership for specific aspects of the Doncaster WCA:

- Skin Integrity Team (SIT): Education development and implementation/Tier 4 services for patients with a DBTH consultant/Clinical pathway and formulary development
- Tissue Viability and Lymphoedema Service (TVALS): Wound Care hub's/Tier 4 services for patients without a DBTH consultant
- Rotherham Doncaster and South Humber Trust (RDaSH): District Nurses provisions
- Fylde Coast Medical Service (FCMS): Out of hours and urgent care needs/Wound Care HUB's
- South Yorkshire Integrated Care Board, Doncaster Place Medicines Optimisation Team: formulary approval and monitoring.

Figure 2. Some of the stakeholders of the Doncaster Wound Care Alliance

A partnership working clinical discussion took place monthly (as a minimum) between the leads of each of these elements to review the progress, concerns and issues to help overcome barriers or unblock problems.

Management of the process

It was agreed to provide wound care interventions and services based on tiers, so that education and funding could be cross referenced. A four-tiered system model (*Table 2*) for wound care intervention was developed, based on the complexity of the patient and their wounds, and included a support

Table 2. Doncaster Wound Care Alliance Tier Outline

Tier	Description	The initial holistic wound assessment and care plan is to be undertaken and developed by a:	The dressing interventions and wound assessment between can be carried out by a:
1	• Removal of clips (ROC) • Removal of sutures (ROS) • Wounds less than 14 days old with positive healing (100% granulation tissue)	• Registered General Nurse (RGN) • Registered Nursing Associate (RNA)	• Registered General Nurse (RGN) • Registered Nursing Associate (RNA) • Healthcare Assistant (HCA) • Trainee Nursing Associate (TNA) **If any concerns arise this must be escalated to the Registered General Nurse (RGN)**
2	• Wounds that are not healing under the care of Tier 1 service within 14 days • Wounds with 50% or less slough/necrotic/devitalised tissue		
3	• Wounds that present with 50% or more slough/necrotic/devitalised tissue • Wounds that require involvement and support from a specialist service, but can managed within GP practices with shared care following the over arching management plan from the specialist service (consultants, tissue viability and lymphoedema services, skin integrity team, podiatry team, local burns services, dermatology)		
4	• Patients that require management from a specialist service only at this time (consultants, tissue viability and lymphoedema services, skin integrity team, podiatry team, local burns services, dermatology)	**Specialist Service only**	

Table 3. The 16 module wound care education programme

Tier	Module	Title
1, 2, 3	1	Aseptic technique with removal of sutures/clips
1, 2, 3	2	TIMES wound assessment and documentation
1, 2, 3	3	Wound healing
1, 2, 3	4	Wound cleansing
1, 2, 3	5	Skin tears
1, 2, 3	6	Bandaging
1, 2, 3	7	Pressure ulcers and moisture associated skin damage
1, 2, 3	8	Minor Burns and Scalds
2, 3	9	Delayed healing
2, 3	10	Wound infection/localised cellulitis
3	11	Diabetic and foot wounds
3	12	Leg ulceration
3	13	Larval debridement therapy
3	14	Lymphoedema
3	15	Negative Pressure Wound Therapy, including PICO
3	16	Burns

structure from specialist services:

- Tier 1: acute healing wounds, with healthy granulation/epithelial tissue
- Tier 2: chronic healing wounds, with 50% or more healthy granulation/epithelial tissue
- Tier 3: non-healing wounds, with 50% or more devitalised/slough/necrotic tissue, (support and input from a specialist wound care service involvement
- Tier 4: non-healing wounds, with 50% or more devitalised/slough/necrotic tissue, managed by a specialist service only due to additional competencies being required e.g. undertaken sharp debridement, assessment and management of palliative or cancer related lymphoedema.

Engagement sessions were held with GP managers to enrol for the tiers they would by able to provide. Some opted for tier 1 only, some opted for tiers 1, 2 and 3 while the majority opted for tiers

Primary Care Doncaster

fcms

NHS Rotherham Doncaster and South Humber NHS Foundation Trust

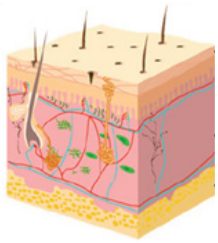
NHS Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust

Module 1 - ANTT and ROS ROC

Name:..... Date:.....

Role:..... GP Surgery:.....

1. Label the layers of the skin below:



(1 mark)

2. What is the purpose of using an aseptic technique?

.....

..... (1 mark)

3. When should your hands be washed?

1.....

2..... (2 marks)

4. Fill in the missing words for the **5th** step to the ANTT

Using your _____ _____ and touching edges of paper only, open pack and lay it flat to create a sterile field. (1 mark)

5. When are sutures usually removed?

..... (1 mark)

Figure 3: Example of a knowledge test that was based on current local recommendations from DBTH and RDaSH

1 and 2. For patients registered with GPs that did not provide the required tier, referral is made to a Doncaster WCA Hub, managed by TVALS and FCMS, to ensure they were managed by a healthcare professional with the right level of knowledge and skill, while the provider was receiving the appropriate funding.

Finance

The over arching financial contract was managed by the Doncaster CCG, in partnership with Primary Care Doncaster (PCD) on a service level agreement and tariff pricing based on the tier of wound care intervention required in GP and hubs.

Education

In 2019, to identify the current level of wound care related knowledge and skills across Doncaster, SIT and TVALS held an education and wound care intervention scoping event for Practice Nurses and Healthcare Assistants providing wound care interventions. The GP practices in Doncaster were chosen due to the previously identified barriers with vast variation in the wound care interventions offered. The current knowledge was assessed through a knowledge test that was based on current local recommendations from DBTH and RDaSH (*Figure 3*). The event focused on aseptic non-touch technique, removal of sutures and clips, and wound cleansing. On average, 52% of answers were correct. Evidence-based education was provided and knowledge was reassessed, resulting in an increase in knowledge from 52% to 85%. From this, SIT developed and implemented a universally structured 16 module education programme (*Table 3*) reflecting the tiered service to provide a consistent and cohesive approach to wound care education, knowledge and skills in the aim to reduce unwarranted variations in wound assessment and treatment.

Policy adherence

Multiple clinical pathways were developed relating to wound assessment and diagnosis, wound treatment and management and onward referrals. They were based on relevant evidence-based practice from best practice statements, National Institute for Health and Care Excellence (NICE)guidance and the National Wound Care Strategy programme (NWCSP) recommendations. It was ensured that they were relevant to each stage of the patient's wound care journey. A joint wound care formulary was then developed that aligned with the education provision and clinical pathways.

Communication

Communication between teams, partially in relation to patient referrals on discharge from DBTH was identified as lacking in relevant information and was often not sent in a timely or secure way. For

example, discharge communications were sent via handwritten forms that had no prompts for the wound care information. Therefore, it was identified that the development of electronic referral forms that include sections for all the required information were needed.

RESULTS

Through having regular Doncaster WCA meetings issues have been escalated promptly and changes have been made. For example:

- Supporting capacity due to sickness or annual leave
- Addressed health inequalities by working with other agencies and organisations, for example enabling the development of a pathway for patients with a wound who are also under the care of the Complex Lives team (Local to Doncaster, under Aspire Drug and Alcohol Services, and has a cycle of rough sleeping/ no fixed abode, no GP or non-compliant with GP appointments, substance misuse and/or offending behaviour) (*Figure 4*)
- Training package expanded to include Healthcare Assistants providing some interventions in tier 3.

This demonstrates the stakeholder's commitment to continuous improvement, thereby suggesting there is now a culture of mutual aid instead of a fragmented service that was seen in 2018/2019.

From 2019 to 2022, over 2900 training contacts have been achieved, increasing the overall knowledge of Practice Nurses and Healthcare Assistants in the 16 modules from 69% to 96%. The feedback was:

- 89% found the education modules useful with engaged knowledgeable facilitators
- 88% found the clinical pathways included in the education assisted them with providing appropriate care to the patient
- 94% have seen benefits to them as a professional following the creation of the Doncaster WCA
- 88% have seen benefits to patient's clinical outcome following the creation of the Doncaster WCA.

The tired service went live in 2020, after the education provisions was started. Since then SIT Complex Wound Clinic (Tier 3 and 4 for patients with an active DBTH consultant) has had:

- An increase in new but appropriate referrals by 16%
- A reduction in unnecessary follow-up (now shared with GP/hub tier 3) by 32%
- An overall reduction in unnecessary activity by 28%

The formulary and accompanying clinical pathways have been in used across the Doncaster WCA since 2021. An example of one of the pathways can be seen in *Figure 5*. Electronic referral forms have been developed and implemented from secondary care into the community, they are sent directly to the service email address or the GP via Accumail, thereby offering some assurance that the information has been received by the provider.

CONCLUSION

The new Doncaster WCA works in a fully integrated way across health and social care providers to ensure multidisciplinary team working, a patient-centred approach and continuity of care, with the aim of reducing unwarranted variations in wound care. The development of a tiered service model based on the complexity, diagnosis and patient need has enabled a responsive patient centred service that provides specialist advice and care provisions. Consistent, evidence and competency-based education for professional development is delivered with the aim of supporting high quality and safe care. Agreed structured communications, clinical pathways and a consistent formulary have been introduced to offer reassurance that clinical practice and guideline recommendations are being implemented, which is starting to reduce unwarranted variation. However further data collection and analysis is ongoing to quantify the impact and provide assurance on the impact of the Doncaster WCA in reducing unwarranted variations in wound care across Doncaster. This will be published at a later date. WUK

Declaration of interest

There is no conflict of interest to declare, the content and views are by the authors.

Figure 4. Addressed health inequalities by working with other agencies and organisation in the development of a pathway

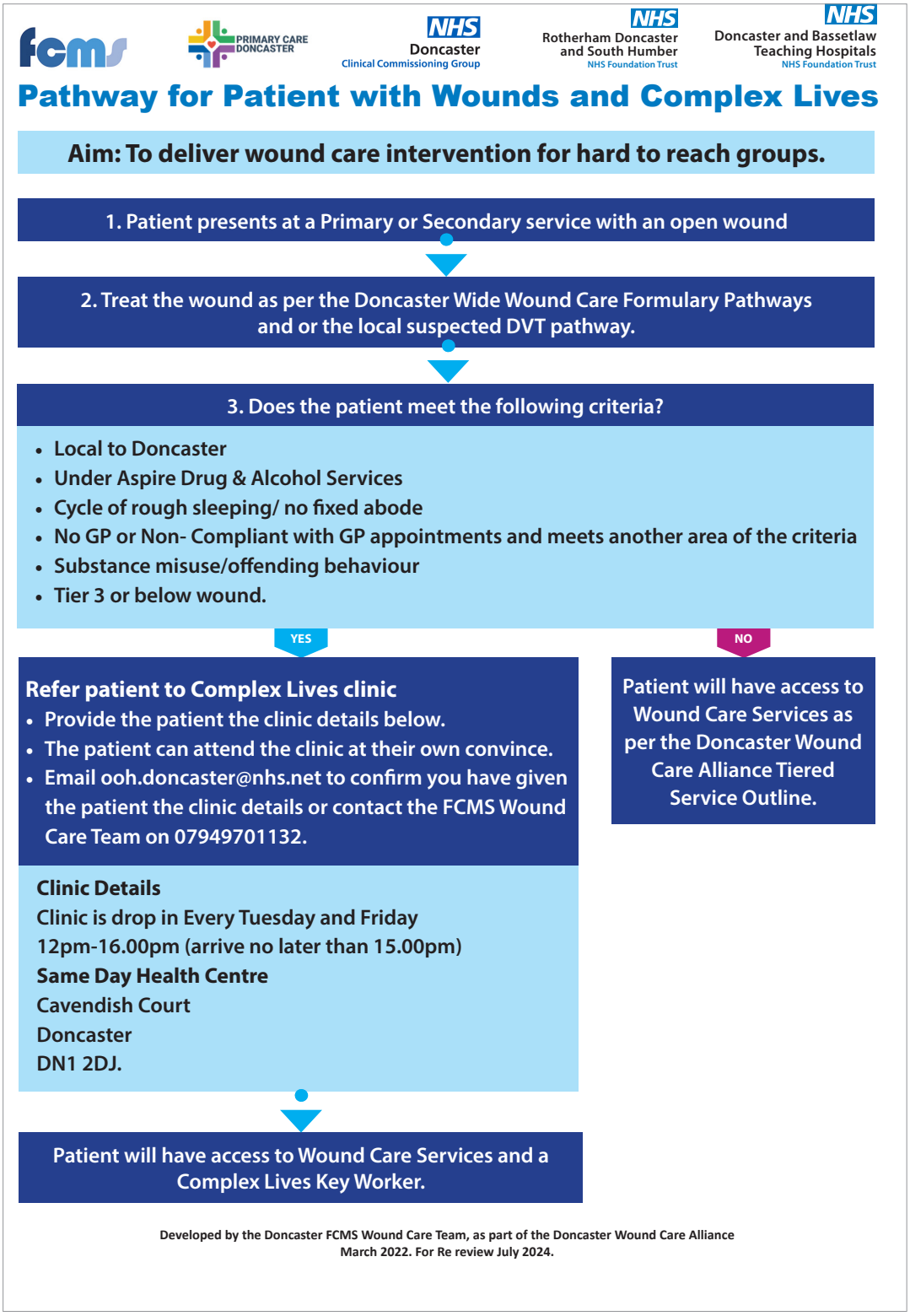


Figure 5. An example of one of the clinical pathways used across Doncaster

fcms | PRIMARY CARE DONCASTER | NHS Doncaster Clinical Commissioning Group | NHS Rotherham Doncaster and South Humber NHS Foundation Trust | NHS Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust

Skin Tear Pathway - Upper Body

A skin tear is a traumatic wound caused by mechanical forces, including the removal of adhesives. Severity may vary by depth (not extending through the subcutaneous layer). *(Le Blanc K et al 2018)*

❶ Stop the bleeding
- Apply clean gauze until the bleeding stops
- Elevate the limb where possible.

❷ Cleanse the wound following the Pathway for Wound Cleansing

❸ Reapproximate where possible
- If a flap is present ease it back into position (reapproximate) without pulling or applying tension
- If difficult to align, use moistened gauze for 5-10 minutes to rehydrate area.

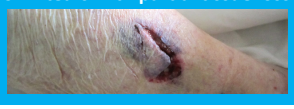
❹ Categorise the skin tear

Important - if the bleeding does not stop after 10 minutes of pressure please seek medical assistance.

Important - the use of paper adhesive strips, sutures or glue may cause additional damage. DO NOT use due to fragility of the skin.

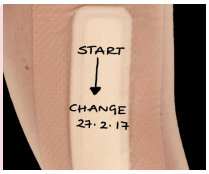
Type 1
Skin tears without tissue loss

Type 2
Skin tears with partial tissue loss



Type 3
Skin tears with entire skin loss

❺ Dress the wound
- Apply Urgotul Absorb Border ensuring a 2cm border around the wound margins
- **Leave in place for 5 days as a minimum** (Wear time will be determined by wound moisture/exudate levels).
- Mark the dressing with an arrow to indicate direction of removal to reduce risk of flap disturbance along with the date of dressing change.



❻ Report

Secondary Care
- Complete the Skin Integrity Datix/Dashboard.
- Document accordingly using the Skin Integrity Wound Assessment Care Plan or Symphony System.

Primary Care
- Complete the Wound Care IPOC within SystmOne/EMIS Web.

❼ Review, Reassess, Dress and Document

Secondary Care Inpatient
- Gently lift the dressing, working away from the attached skin flap.
- Monitor for changes i.e. infection, discolourisation to the flap.
- If there is no improvement after 14 days, or if advice is required contact the Skin Integrity Team (SIT) via the Skin Integrity Datix/Dashboard using the questions and comments section.

Secondary Care Emergency and Outpatient Departments
- Refer to District Nurse/Practice Nurse for a dressing change. Leave in place for 5 days (as a minimum) to minimise the disturbance to the wound bed. Wear time will be determined by the wound conditions eg. exudate levels.
- Provide 1 x dressing for the first District Nurse/ Practice Nurse appointment.

Primary Care
- Gently lift the dressing,working away from theattached skin flap.
- Monitor for changes i.e. infection, discolourisation to the flap. If no improvement in 21 days onward referral to TVALS.

❽ Promote patient involvement

Encourage patient involvement by:
- Keeping the skin well hydrated by maintaining adequate nutritional and fluid intake.
- Apply emollient as per local formulary to other vulnerable areas of the skin to minimize further skin tear development.
- Protect fragile skin by covering with long sleeved clothing or tubular bandages.

If the named product on this pathway is not available a temporary second line product is available to use. This can be found within the main text of the Doncaster Wide Wound Care Formulary Document.

Developed by the Skin Integrity Team Feb 2017. Updated Jan 2020 - Reviewed Jun 2022 and merged the Upper body skin tear pathway for emergency and outpatient areas, secondary care and primary care - V3. For review June 2024. Refrecne: LeBlanc K et al. (2018) Best practice recommendations for the prevention and management of skin tears in aged skin. *Wounds International.*

Acknowledgements

We would like to thank the follwing:

The Skin Integrity Team, Doncaster and Bassetlaw Teaching Hospital NHS Foundation Trust (Past and Present since 2018).

Tissue Viability and Lymphoedema Service, Rotherham Doncaster and South Humber NHS Foundation Trust.

Foot Protection Service, Rotherham Doncaster and South Humber NHS Foundation Trust.

Doncaster Clinical Commissioning Group / Now part of the South Yorkshire Integrated Care Board)

Primary Care Doncaster (PCD).

FCMS Doncaster

Bev Shiner, Graphics Designer, Doncaster and Bassetlaw Teaching Hospitals

NHS Foundation Trust

REFERENCES

Adderley U, Evans S, Coleman K (2017) Reducing unwarranted variation in chronic wound care. *Wounds UK* 13(4):22–26. https://tinyurl.com/7v5udw96

Griffith R, Tenganah C (2020) Law and professional issues in nursing (second ed). Exeter; Leaning Matters

Guest JF, Ayoub N, Mcllwraith T et al (2015) Health economic burden that wounds impose on the National Health Service in the UK. *BMJ Open* https://bmjopen.bmj.com/content/5/12/e009283

Guest JF, Fuller GW, Vowden P (2020) Cohort study evaluating the burden of wounds to the UK's National Health Service in 2017/2018: update from 2012/2013. *BMJ Open* 10(12):e045253. https://doi.org/10.1136/bmjopen-2020-045253

National Wound Care Strategy Programme (2020) Lower Limb Recommendations for Clinical Care. https://tinyurl.com/y9v8t4b9 (accessed 5 June 2022) (accessed 20 July 2022)

NHS England (2016) Leading Change, Adding Value. A framework for nursing, midwifery and care staff

NHS RightCare (2017) The variation between standard and optimal pathways.Betty's story: Wound care https://tinyurl.com/mrxkxupk (accessed 5 June 2022) (accessed 20 July 2022