



**National Wound Care
Strategy Programme**



**Surgical
Wounds**

Surgical Wound Complications - How to approach quality improvement

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**Health
Innovation
Network**

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Surgical Wounds

The most common type of wound that requires NHS care are surgical wounds (57%)

Surgical wounds are deliberately caused through a surgical incision and heal either by:

- Primary intention (where the edges are brought together in approximation)
- Secondary intention (where tissue has been lost or because the wound edges cannot be brought into apposition for suturing)

Most heal without complications or delay, but healing is problematic in a significant minority

Surgical Wound Complications

Complications leading to delayed healing

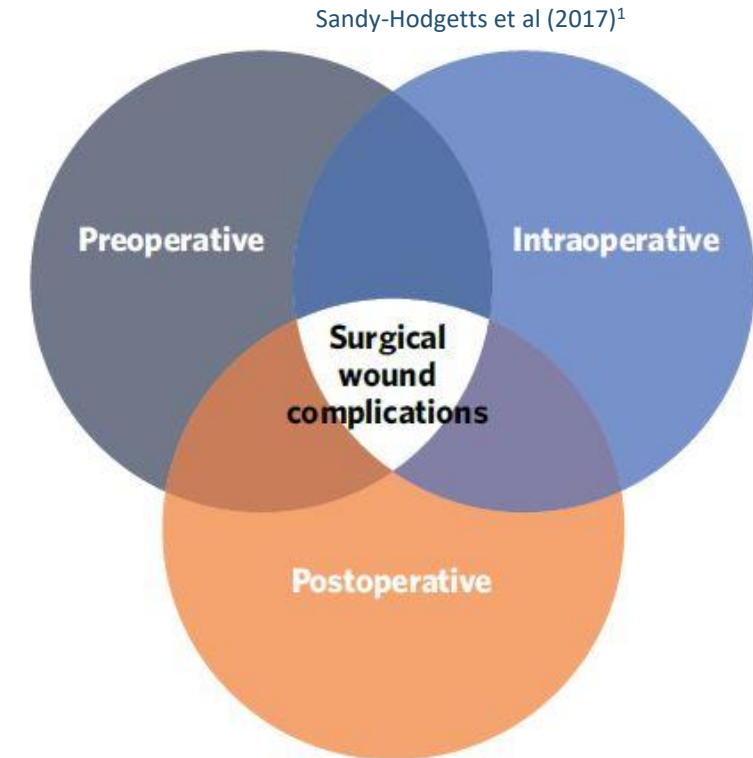
- Surgical Site Infection
- Surgical Wound dehiscence (including Seroma & Haematoma)

Other wound healing complications:

- Hypergranulation
- Medical Adhesive Related Skin Injury (MARSI)
- Moisture Associated Skin Damage (MASD) / Maceration

Complications unrelated to delayed healing

- Scarring
- Incisional hernia



1. Sandy-Hodgetts K, Leslie GD, Parsons R, et al. Prevention of postsurgical wound dehiscence after abdominal surgery with NPWT: a multicentre randomised controlled trial protocol. *J Wound Care* 2017; 26(2): S23–26.

Surgical Wound Complications:

Surgical wound dehiscence (SWD)

- The separation of the margins of a closed surgical incision, with or without exposure or protrusion of underlying tissue, organs or implants. Separation may occur at single or multiple regions, or involve the full length of the incision, and may affect some or all tissue layers.

Surgical Site Infection (SSI)

- An infection related to an operative procedure, that occurs at, or near, the surgical incision within 30 days of the procedure, or within 90 days if prosthetic material is implanted at surgery.

SWD increases the risk of SSI and vice versa

- A dehisced surgical incision may or may not display clinical signs and symptoms of infection
- Not all infected or inflamed wounds dehiscence¹

1. World Union of Wound Healing Societies (2018) Surgical wound dehiscence: Improving prevention and outcomes. Wounds International

UK SSI Initiatives

NICE – Surgical Site Infections: Prevention and Treatment

UKHSA - Surgical Site infection (SSI): guidance, data and analysis

One Together UK

GIRFT - Surgical Site Infection Audit (2019)

WHO

Reasons for Surgical Wound Dehiscence



- Technical Issues - issues with the closure of the incision.
- Mechanical Issues – mechanical stress placed on the incision.
- Disrupted Healing - Can be due to both local and systemic factors.

Disrupted Healing

Local Factors

- Hypoxia/Ischaemia
- Devitalised tissue
- Infection/contamination
- Inflammatory conditions
- Larger initial wound size
- Ongoing mechanical stress or trauma

Systemic Factors

- Very young or very old
- Psychological stress
- Chronic disease/comorbidities
- Medication
- Radiotherapy
- Smoking, alcoholism, substance misuse
- Malnutrition
- Connective tissue disorder
- Poor concordance with treatment plans



Scale of the problem

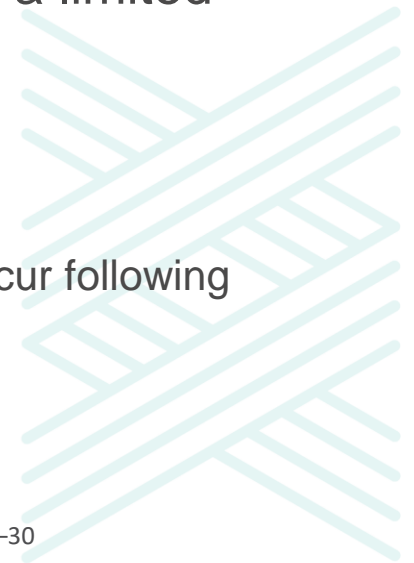
- The annual cost to the NHS of managing delayed healing in surgical wounds is estimated to be between £957.4 and £985.8 million¹.
- The scale of the problem is uncertain as it is unclear how many surgical wounds have delayed healing.
- The lack of standardisation for post-discharge data collection has resulted in a limited understanding of delayed healing following hospital discharge.
- Current estimates of SSI are from 0.4- 11.3%².
- At present, most SSI surveillance ends at hospital discharge but approximately 60% of SSIs occur following discharge so the true rate of SSI is likely underreported³.
- Current estimates of SWD are 0.4-41.8%⁴.

1. Guest JF, Ayoub N, McIlwraith T, et al. Health economic burden that different wound types impose on the UK's National Health Service. *Int Wound J* 2017;14:322–30

2. UKHSA (2022) Surgical site infections (SSI) surveillance: NHS Hospitals in England.

3. Andersen BM (2018) Prevention of postoperative wound infections. *Prevention and Control of Infections in Hospitals* 25: 377-437

4. World Union of Wound Healing Societies (2018) Surgical wound dehiscence: Improving prevention and outcomes. *Wounds International*



Surgical Wound Dehiscence

Surgery	Incidence
Laparotomy	0.4%–3.8%
Cardiothoracic (sternotomy)	0.65%–2.1%
Caesarean section	1.9%–7.6%
Orthopaedic surgery	1.1%–3.6%
Saphenous vein harvesting	8.9%
Pilonidal sinus (primary closure)	16.9–41.8%
Oncoplastic breast reconstruction	4.6%–13.3%
Abdominoplasty following bariatric surgery	18.7%–21.5%



Impact on patient of surgical wound complications

- Delayed healing can impact patients' mental health, physical and social functioning, pain and potentially long-lasting disability.
- Multiple theatre episodes, delayed discharge and hospital readmission.
- Increased hospital and community visits.
- Increased mortality especially in the presence of infection.
- Impact on ability to work and finances.



(With Permission)

Health & Social Care impact of surgical wound complications

- Delayed discharges
- Increased length of stay.
- Hospital readmissions.
- Additional surgical episodes.
- Impact on elective surgery rates.
- Increased workload for primary and community care.
- Increased dressing costs.
- Increased reliance on welfare and social security benefits.



Our aims & vision



Process

- Redesign clinical pathways across primary care, community services and secondary care.
- Promote supported self-management.

Improve the knowledge and skills of the health and care workforce, patients and carers

Improve the systems and pathways for the delivery of care

Improve the quality of data and information



People

- National wound care core Capabilities Framework.
- Topic specific education curricula and online free-to-access wound care education resources.
- Patient resources to support self-management.



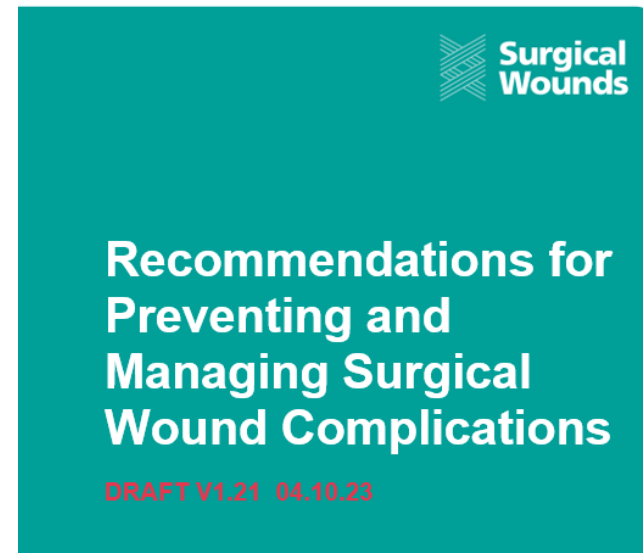
Technology

- Information feedback systems to inform clinical and business needs.
- Point of care NHS compliant mobile digital technology.

Evidence

Key action 1: Aim for evidence-based good practice

- Recommendations written to concentrate on surgical wound complications
- End 2023 consultation
- Publication End March 2024



Working in partnership with

The **AHSN** Network



Education and Workforce

Key action 2: Map the capabilities of whole workforce who care for people with wounds.

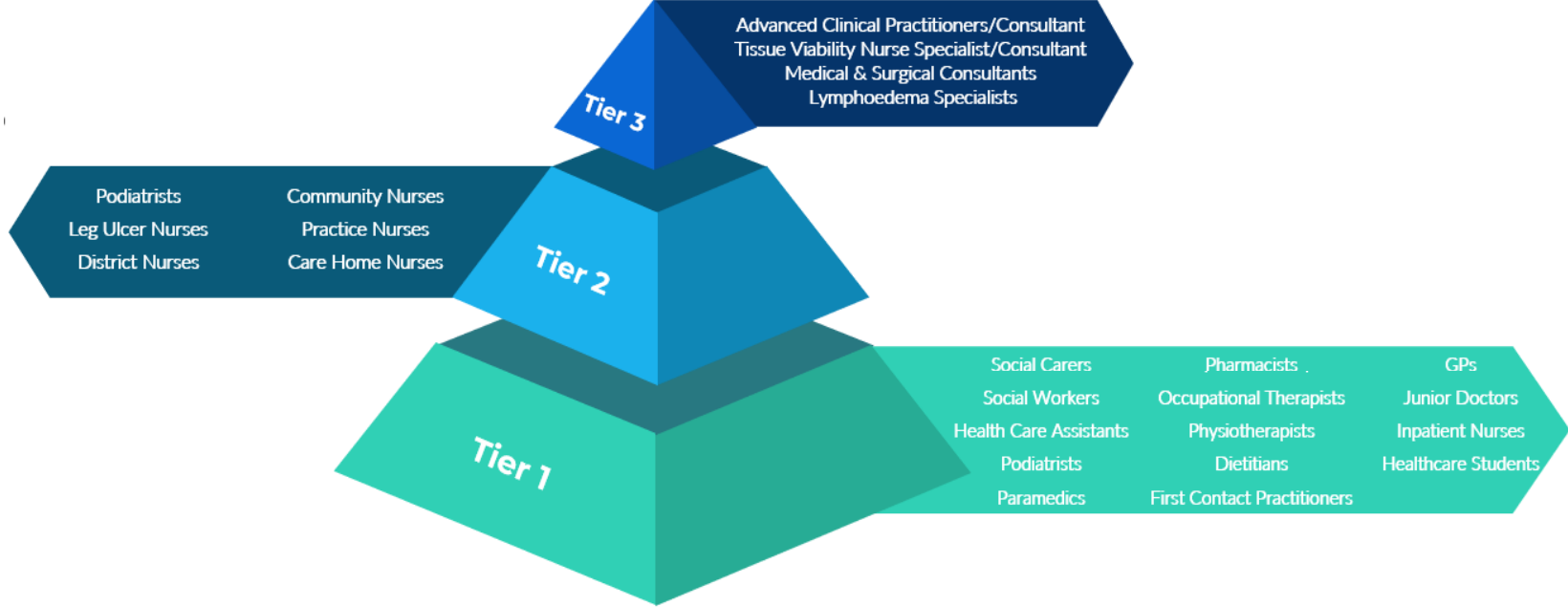
 National Wound Care Strategy Programme

 Skills for Health

Wound Care Workforce Framework

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Education and Workforce

Key action 3: Address knowledge and skills gaps in the workforce

Access our e-learning programmes on the e-LfH Hub [Register / Log in >](#)

e-LfH
e-Learning for Healthcare

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Sections

Essentials of Wound Care Education for the Health and Care Workforce

Interactive e-learning resources to support the development of wound care knowledge and skills in the health and care workforce

This programme is in partnership with...

NHS Health Education England

National Wound Care Strategy Programme
Endorses, Supports, Leads, Drives

Tier 1

- Essentials of Skin Care
- Essentials of Wound Assessment
- Essentials of Digital Wound Imaging
- *Essentials of Nutrition and Lifestyle**
- *Essentials of Wound Infection**
- Essentials of Leg Ulceration
- Essentials of the Foot at Risk
- Diabetic Foot Screening
- Granulation Game
- Essentials of Pressure Ulcer Prevention
- *Purpose T**
- *Essentials of Surgical Wounds**

Tier 2

- *Diagnosing and Managing Wound infection**
- Adult Lymphoedema
- *Vascular Assessment**
- *Making Differential and Formal diagnoses (Case Studies)**
- Foot at Risk
- *Principles of Managing Surgical Wound Complications*
- *Principles of Managing Open Surgical Wounds*

Tier 3

- HEI education



Information for patients and carers

Key action 4: Identify opportunities for supported self-care

- Additional leaflets are in development:
- Infection in Surgical Wounds
- Supported Self-Management for Patients with Surgical Wounds

This leaflet is written for patients by patients and is based on experience and medical information.

It aims to answer general questions about how to take care of your surgical wound, to help your wound heal and reduce the chance of it getting infected.

Note: It's important to follow the individual advice you're given by your healthcare professional after your operation or procedure.

Surgical Wounds

What is a surgical wound?

A surgical wound is a cut made to your skin and tissues during an operation. Usually, after your surgeon finishes your operation, they'll secure the edges of the cut. They may do this with:

- stitches (sutures)
- staples (metal clips)
- adhesive strips
- skin glue

The method your surgeon uses will depend on where your wound is, how big it is and how strong the closure needs to be.

Surgical wound dressings

Not every surgical wound requires a dressing but if you do need one, its purpose is to:

- Absorb any fluid weeping from your wound.
- Provide the best conditions for healing.
- Protect the area as your wound heals.



Your healthcare professional will tell you how to care for a surgical wound at home. This will include when you should change or remove the dressing. The original dressing may be left in place for around two to three days to give the wound time to start healing. When you remove the dressing:

- Wash your hands prior to touching the dressing.
- Do not touch or squeeze the wound.
- Don't use antiseptic or any unprescribed cream under the dressing. These creams may cause harm rather than help the wound heal.

If the wound is healing, it can be left without a dressing. You might like to keep one over the area for protection and comfort, for example, if your clothes are rubbing against it. You may be given replacement dressings to use at home. It is common for a healing wound to itch - do not be tempted to scratch it! If you are concerned, ask your healthcare professional.



Issues with data



Data on surgical wounds is not comprehensively and routinely collected, in a standardised way particularly in primary and community settings



What is collected is restricted to specific surgeries and limited to snapshots



Collection of data is time consuming



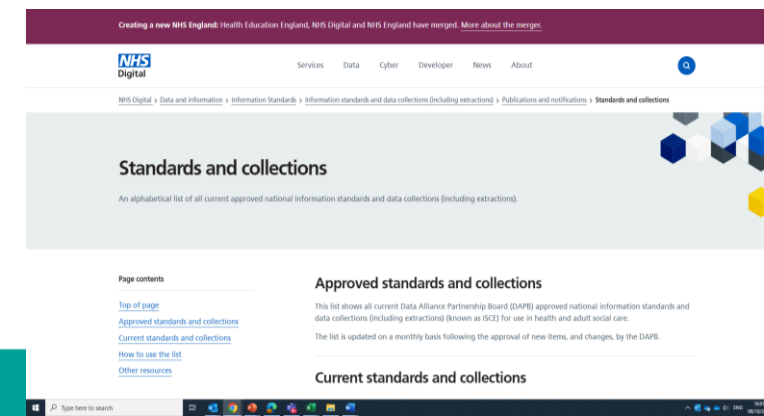
Any data that is collected is not published in a timely manner, so data is often not available for quality improvement



Digital, Data and Information

Key action 5: Use data to improve data

- Adopt the Wound Care Information Standard Notice (*DAPB4086*) to improve clinical documentation:
- Type of surgery
- Emergency /Elective Surgery
- Date of Surgery
- Duration of surgery
- Antibiotic prophylaxis given
- Wound type/classification - clean, clean-contaminated, contaminated dirty
- Approximation of wound edges
- Closure method
- Date of closure removal
- Drain in situ/type of drain
- Prosthesis/Implant present
- Fluid collection beneath the wound closure (Abscess, Haematoma, Seroma)
- Crepitus present
- Dehiscence (size and number)
- Healing ridge present



Digital, Data and Information

Key action 6: Optimise digital technology

- Improve the data collection for surgical wound complications by the use of **digital data surveillance systems** (EPRs, WMDS)
- **Support the flow of clinical care delivery** (assessment, diagnosis, treatment, ongoing care) and where care is delivered (clinic setting, patient's place of residence)
- Support the capture and sharing of **wound images**

Wound Management Digital Systems Functional Overview

This Wound Management Digital Systems Functional Overview is now available for use in the NHS.

The National Wound Care Strategy Programme (NWCSP) has identified the need to improve data and information to support clinical decision making and enable quality improvement. It recommends the use of point-of-care, NHS compliant digital technology.

The Digital, Data and Information workstream has worked closely with industry and NHS stakeholders, through a series of consultations during 2020 and 2021 to develop the notion of Wound Management Digital Systems (WMDS). This document describes at high level the functions of WMDS and suggests whether each function should be considered essential or desirable.

This WMDS Functional Overview has been developed to help NHS and industry colleagues have a shared view of 'what good looks like' with regards WMDS functionality. It provides a development roadmap for suppliers whose products are yet to meet all of the suggested essential features.

It will support NHS colleagues who choose to use it as a basis to develop local procurement templates to enable them to evaluate the strengths and weaknesses of different products.

It provides a development pathway for WMDS suppliers by making clear the expectations of the NHS.

The Digital, Data and Information workstream will now use this Functional Overview to develop a Wound Management Digital Systems Procurement Evaluation Template that NHS providers can use when considering purchasing such systems.

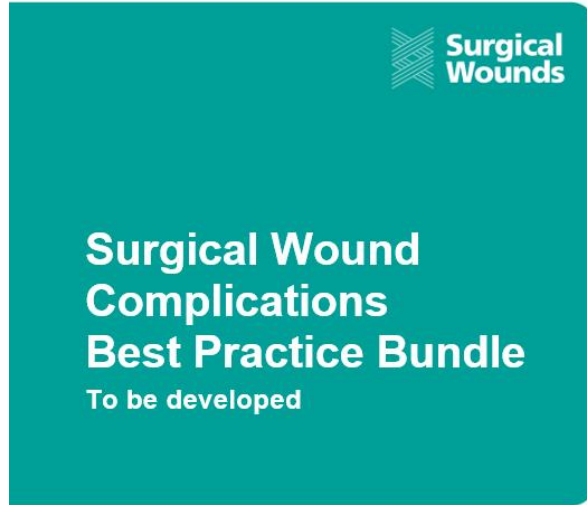
Please cite as: National Wound Care Strategy Programme, (2021) Wound Management Digital Systems - Functional Overview.



Practical Recommendations
for the use of Digital Images
in Wound Care

Surgical Wound Complications

Key action 7: Develop & Implement Surgical Wound Complications Best Practice Bundle



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Content

- Interventions (based on NWCSP Surgical Wound Complications Recommendations)
- Rationale
- Implementation Guidance
- Impact Metrics: Process and Outcome indicators
- Continuous Learning
- Supporting Resources



In summary.... Key Actions

1. *Aim for evidence-based good practice*
2. *Map the capabilities of whole workforce who care for people with wounds.*
3. *Address knowledge and skills gaps in the workforce*
4. *Identify opportunities for supported self-care*
5. *Use data to improve data*
6. *Optimise digital technology to support good clinical documentation, which results in quality data collection*
7. *Develop & Implement Surgical Wound Complications Best Practice Bundle*



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Wounds**

**Thank you for your
attention**

Any Questions?

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