

5 FEBRUARY 2025 7:30_{GMT}

**PROF. TOM
WAINWRIGHT**



**PATIENTS DESERVE
BETTER INCISION CARE,
DON'T THEY?**



DR SARA CARVALHAL



LIVE Q&A

*SEND IN YOUR QUESTIONS BY
COMMENTING ON THE VIDEO*

SURGICAL ONCOLOGY



WOUND CARE TODAY



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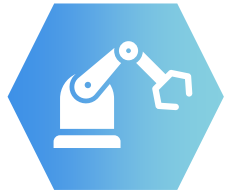
INCISION CARE IN ONCOLOGY



Improved systemic therapies



Extended surgeries with limited morbidity



Minimally invasive approaches and surgical technology

WHAT ABOUT INCISION CARE?



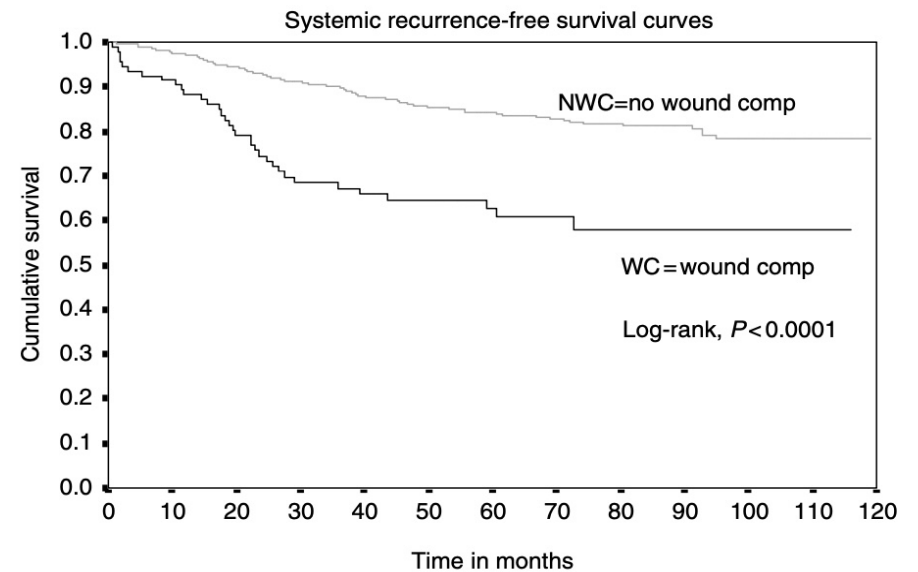
WOUND COMPLICATIONS IMPACT SURVIVAL

British Journal of Cancer (2007) 97, 1211–1217
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www.bjcancer.com

Postoperative wound complications and systemic recurrence in breast cancer

BL Murthy^{*1}, CS Thomson², D Dodwell³, H Shenoy¹, JS Mikeljevic⁴, D Forman⁵ and K Horgan¹

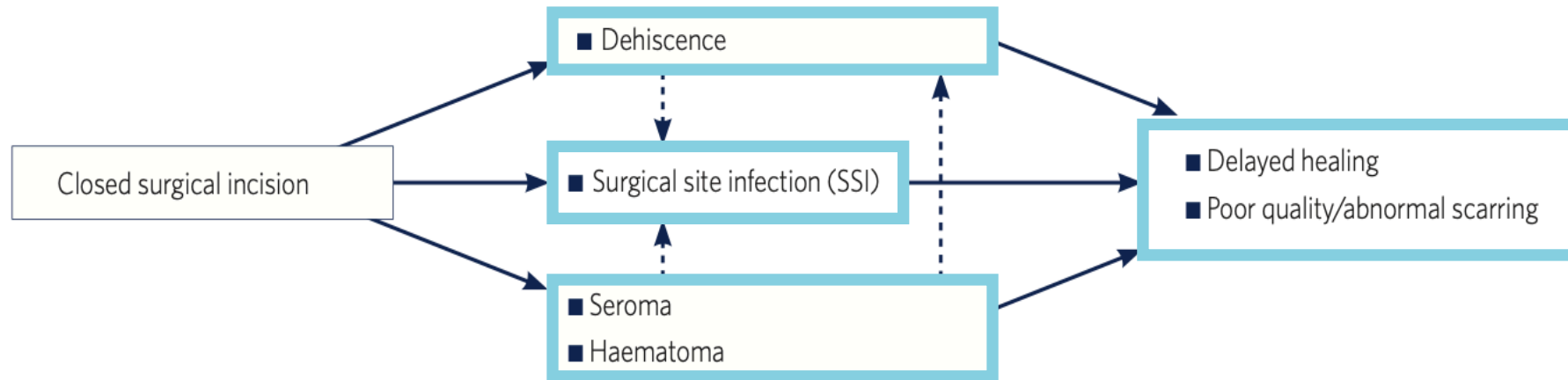
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	0	10	20	30	40	50	60	70	80	90	100	110	120
WC	93	84	70	55	49	44	35	22	14	9	7	4	0
NWC	972	938	863	722	578	441	336	245	185	128	79	36	0

Figure 1 Systemic recurrence-free survival curves (Kaplan–Meier by occurrence of wound complication).

WOUND COMPLICATIONS LINK



‘Surgical scar quality should be monitored, ideally for 12 months after surgery, and the Expert Working Group recommend inclusion of scar quality in patient-reported outcomes’



RISK ASSESSMENT TO GUIDE POST-OP

THE SIMPLIFIED SURGICAL SITE EVENT RISK ASSESSMENT (SSERA) MODEL



SURGICAL CANCER PATIENT RISK ASSESSMENT MODEL

Development and validation of a novel stratification tool for identifying cancer patients at increased risk of surgical site infection (Anaya et al, 2012)

Key points:

- The aim of this study was to identify cancer-specific predictors of postoperative SSI, and develop a risk-stratification prognostic tool and compare its performance with traditional measures
- A prospective cohort study of patients undergoing elective operations at a tertiary cancer centre was conducted; multivariate logistic regression analyses were performed to identify predictors of SSI and create a scoring system
- The Risk of Surgical Site Infection in Cancer (RSSIC) score was found to improve risk stratification of cancer patients and help to identify those that may benefit from more aggressive or novel preventive strategies.

Risk factor	Odds ratio (95% CI)	p-value
Preoperative chemotherapy	1.94 [1.2-3.3]	0.010
Operative time U2 h	1.75 [1.0-3.0]	0.040
Operative time U4 h	2.24 [1.2-4.1]	0.009
Incision site: groin	4.65 [1.7-12.8]	0.003
Incision site: head and neck	0.12 [0.0-1.0]	0.030
Wound type: Clean-contaminated	2.10 [1.2-3.6]	0.006

SSERA Group (2023) *Surgical patient population risk assessment: The simplified SSERA assessment model*. Wounds International, London.

WOUND COMPLICATIONS MYTH

Wound Care Department

Complicated Surgical Wounds and Associated Factors in Oncology Patients

Carol Viviana Serna González, MSc, BSN, RN, ETN
Viviane Fernandes de Carvalho, PhD, BSN, RN, ETN
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Vera Lúcia Conceição de Gouveia Santos, PhD, MSN, RN

TABLE 3 Distribution of CSW by Cause

Type	CSW present		Occurrence rate (N = 341), %
	n	%	
Dehiscence	6	54.5	1.76
Infection	3	27.3	0.88
Fistula	2	18.2	0.59
Total	11	100	3.22

Note. CSW = complicated surgical wound.



WOUND CARE TODAY



NEW GUIDELINE FOR POST-OP INCISION CARE

JWC Global Guideline

International Surgical Wound
Complications Advisory Panel
guideline for post-operative incision care



Consensus statement: Given the difference between SSI and SWD, it is highly likely that **SWD is significantly underreported.**



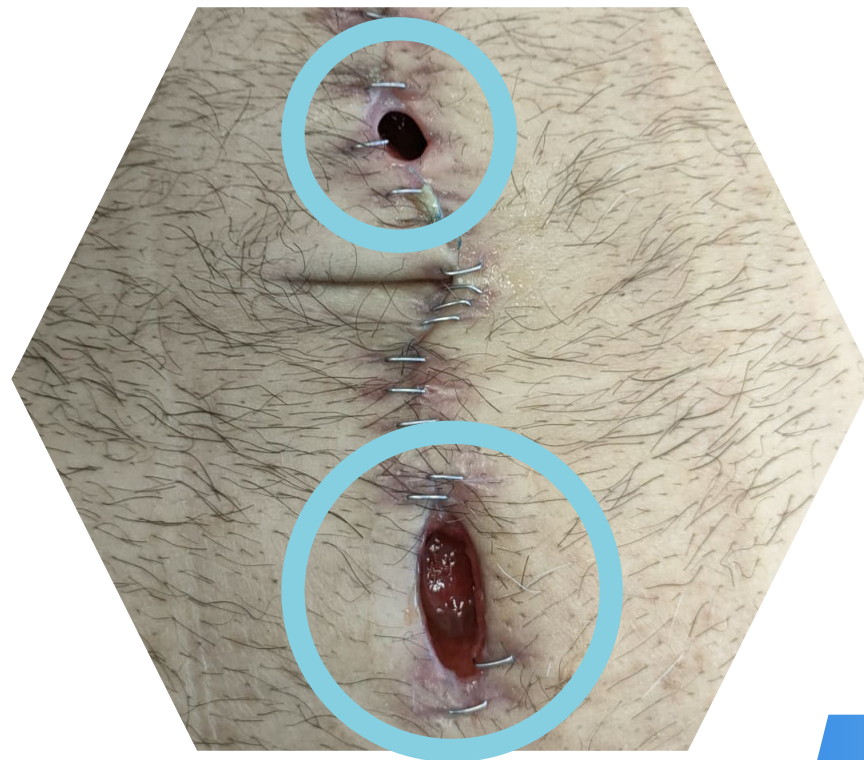
WOUND CARE TODAY

Sandy-Hodgetts K, Carvalhal S, Rochon M, Tariq G, Tettlebach W, Van Der Merwe Z, Wainwright T (2025) ISWCAP Guideline for postoperative incision care. *J Wound Care* **34(Sup1a)**: S1-S19



PATIENT'S PERSPECTIVE

Which one is worse: SSI or SWD?



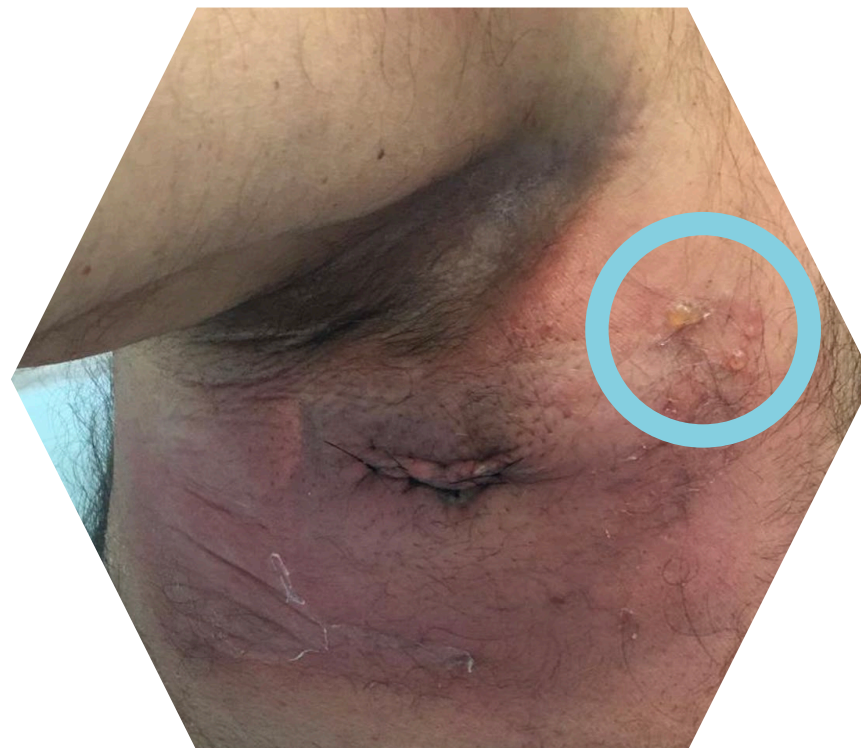
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PATIENT'S PERSPECTIVE

Which one is worse: SSI or MARSI?



WOUND CARE TODAY



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WOUND DRESSING'S ROLE

- Because post-operative complications such as SSI and SWD are common, it is important that **wound care is based on the risk assessment undertaken before surgery** (Sandy-Hodgetts and Morgan-Jones, 2022)
- Post-incisional care will vary according to region and healthcare system but should **focus on reducing the risk of infection and associated complications** (Sandy-Hodgetts et al, 2020).



Sandy-Hodgetts K, Ousey K, Conway B, et al (2020) *International Best Practice Recommendations for the early identification and prevention of surgical wound complications*. Wounds International, London

Sandy-Hodgetts K, Morgan-Jones R (2022) *Incision care and dressing selection in surgical wounds. Findings from a series of international meetings*. Wounds International, London



WOUND DRESSING'S ROLE

Low risk of surgical site infections

- Prevent contamination *from outside*
- Maintain a moist environment *optimal for wound healing*
- Allow patient's mobility
- Stay in place for as long as possible (up to 1 week or more)

Moderate risk of surgical site infections

- More advanced dressings to absorb *more* fluid
- Allow for visibility of surrounding areas of skin for monitoring purposes
- *Again*, be flexible, absorbent and waterproof

High risk of surgical site infections

- Closed incisional negative pressure wound therapy (ciNPT) may be considered



KEY FEATURES OF WOUND DRESSINGS



Flexible



Well-fixed



Absorbent



Protective



Waterproof



No dead space



NEW GUIDELINE FOR POST-OP INCISION CARE

Box 5: Features of an optimal wound dressing for post-operative incisions (Sandy-Hodgetts et al, 2025)

- Absence of particulate contaminants left in the wound after removal
- Absorption capability to control exudate
- Adhesion to the skin, whether it is dry after disinfection or moistened by sweat
- Atraumatic removal
- Cosmetic acceptability
- Ease of use to ensure consistent care
- Elimination of dead space between the wound bed and dressing to avoid exudate pooling
- Flexibility to not impede the person's movement and provide elasticity to avoid pulling the skin or blistering (particularly over joints)
- Patient comfort
- Protection of periwound skin
- Suitability for use with different skin closures (e.g. sutures or staples)
- Suppression of scar-tissue formation
- Transparency to allow visualisation of the incision, reducing the need to remove the dressing
- Waterproofing to provide a good seal/barrier function and allow showering.



NEW GUIDELINE FOR POST-OP INCISION CARE

JWC Global Guideline

International Surgical Wound Complications Advisory Panel guideline for post-operative incision care



Advanced wound dressings for post-operative care

Consensus statement: In general, post-operative dressings should be left in place for around 7 days or until the suture is removed on a clean surgical site. Dressings may be left in place for up to 14 days, depending upon patient circumstances, exudate level and goal of care.



WOUND CARE TODAY

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NEW GUIDELINE FOR POST-OP INCISION CARE

Consensus statement: A dressing should be removed if it ceases to be intact or detaches from the wound edges, thus ceasing to be waterproof and exposing the incision to external contaminants. Dressing removal may also be required if the dressing becomes saturated with exudate or blood, if the incision shows signs of infection or if the patient shows signs of an allergic reaction to the dressing (e.g. itching, pain or erythema).



BETTER DRESSINGS, EXTENDED WEAR TIME

Proportion of patients with primary post-operative dressing (applied on day of surgery) *in situ* at discharge.

Primary post-operative dressing (applied on day of surgery)	Proportion of patients with primary post-operative dressing in situ at discharge
Tegaderm® + Pad	26 (68%)
Mepilex® Border Post-Op	33 (82%)
Opsite® Post-Op Visible	28 (65%)
Sorbact® Surgical Dressing	22 (63%)
Aquacel® Ag Surgical Dressing	27 (61%)
Leukomed® Control	24 (56%)
Mepore®*	1 (1.9%)

Pickles S, McAllister E, McCullagh G, Nieroba N-J (2022) Quality improvement evaluation of postoperative wound dressings in orthopaedical patients. *Int J Orthop Trauma Nurs* **45**: 10922

MY EXPERIENCE

- National cancer centre and private practice (range of complexity of surgeries and different patients)
- Nurses' questionnaire at the first dressing change (n=10).

85%

Patients' wear time at least one week

95%

Well fixed after 1 week with shower

100%

Patients satisfied / very satisfied



MY EXPERIENCE

- National cancer centre and private practice (range of complexity of surgeries and different patients)
- Nurses' questionnaire at the first dressing change (n=10).

Positive aspects	Negative aspects
Atraumatic removal	Border rolling
No MARSIs	Suboptimal use

BENEFITS FOR PATIENTS AND CLINICIANS

- 86-year-old female patient
- Locally advanced basal cell carcinoma
- First post-operative visit eight days post-op.



BENEFITS FOR PATIENTS AND CLINICIANS

- 56-year-old female patient
- Ulcerating basal cell carcinoma of the left axilla.



Surgical wound in OR



Advanced dressing in OR



Day 6 post-op, dressing in situ, despite some minor rolling



Wound at day 6 post-op

PATIENT'S PERSPECTIVE

“Be able to shower as usual”



WATERPROOF

“Maintain a normal life”



COMFORT

“Move freely with no pain”



ADHESIVE, WELL FIXED

“Limits visits to hospital /
primary care”



EXTENDED WEAR TIME



FINAL REMARKS

- Surgical oncology aims to treat cancer patients to achieve maximal survival with the least impact on function, cosmesis and comfort
- Incision care is an important part of post-op recovery and should minimise patient's discomfort and impact on normal life.



PROFESSOR TOM WAINWRIGHT



WOUND CARE TODAY



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ENHANCED RECOVERY AFTER SURGERY (ERAS)

ERAS has been hugely successful at improving outcomes across the domains of quality:

- Length of stay ↓
- Readmissions = or ↓ (no increase)
- Complications = or ↓ (no increase)
- Mortality ↓
- Patient experience ↑
- Economic savings ↑.



WHAT IS ERAS?

‘Enhanced recovery is an evidence-based approach to care. It is designed to prepare patients for, and reduce the total impact of surgery, helping them to recover more quickly. It is a multi-modal approach similar to that of care bundles.’

Professor Henrik Kehlet

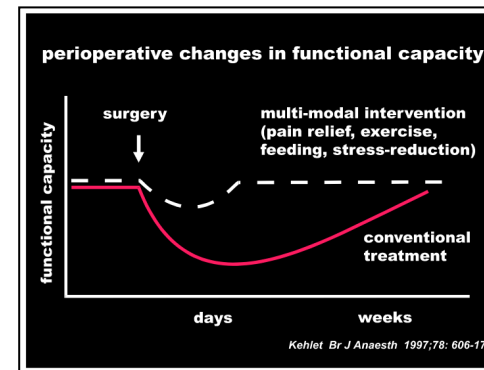
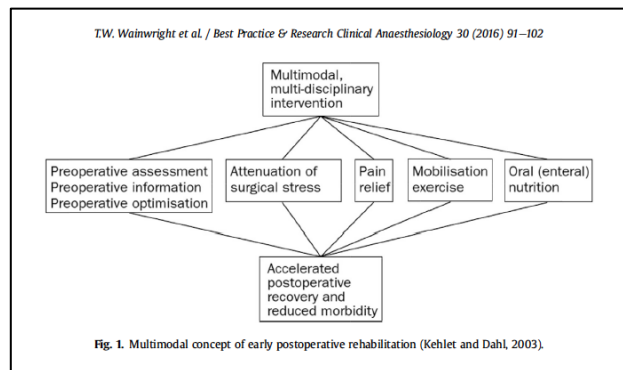
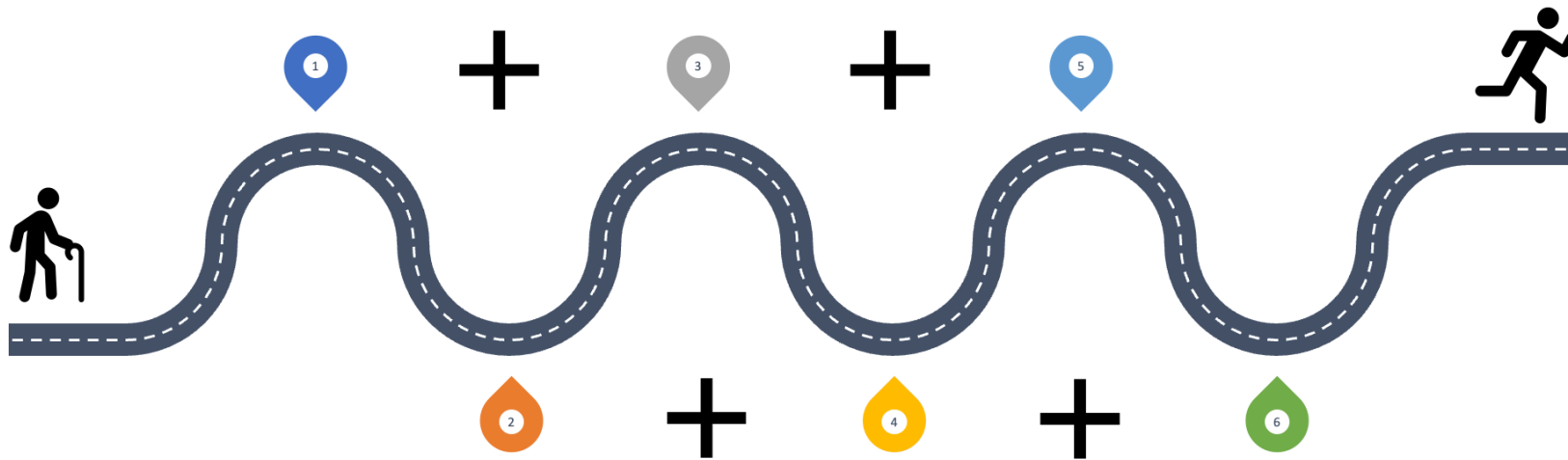


WOUND CARE TODAY



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ERAS: MODULATING THE SURGICAL STRESS RESPONSE THROUGH THE AGGREGATION OF MARGINAL GAINS



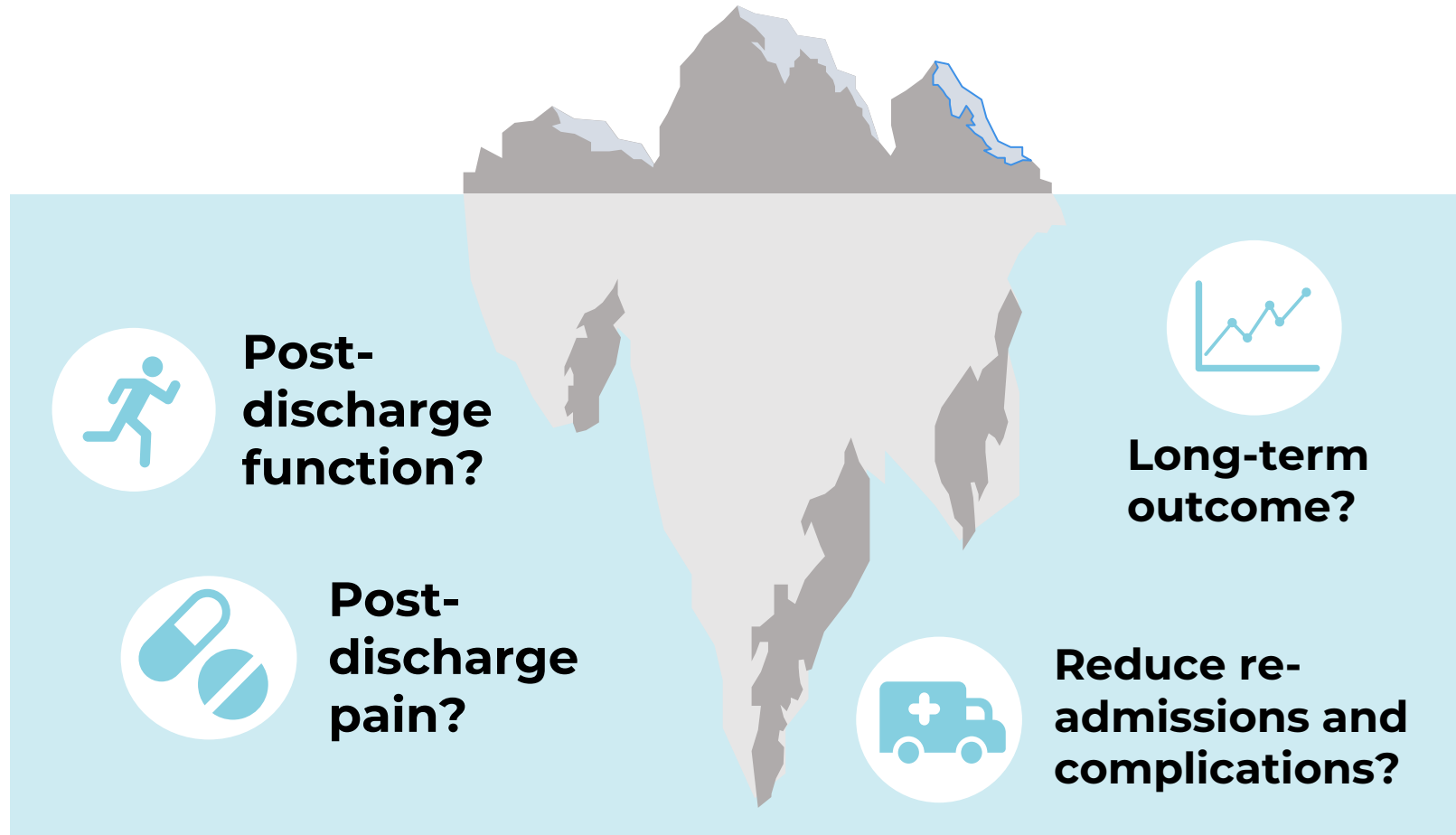
HAVE WE REACHED THE GOAL – A ‘PAIN AND RISK-FREE’ SURGERY?

Future challenges:

- Pain and inflammation control
- Pre- and post-op anaemia management
- 90 day readmissions \approx 6 – 8% \rightarrow not yet ‘pain and risk-free’ surgery
- Post-discharge pain management / rehabilitation / complications
- Outpatient / daycase setup.



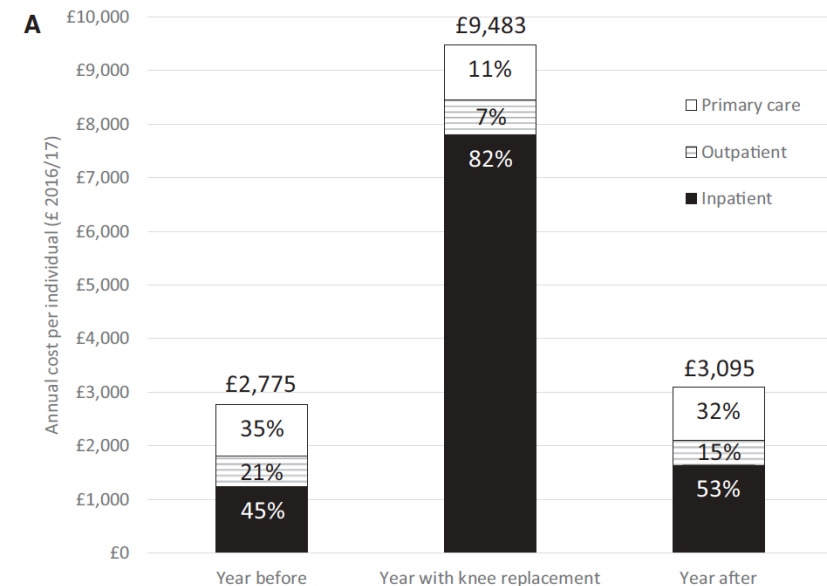
WHAT HAPPENS AFTER DISCHARGE?



THERE ARE SIGNIFICANT COSTS FOLLOWING JOINT REPLACEMENT

Surgical wound complications such as those listed below are contributory factors:

- Surgical wound dehiscence
- Hypergranulation
- Peri-wound maceration
- Scarring
- Medical adhesive-related skin injury
- Seroma and haematoma
- SSI.



POST-OPERATIVE WOUND CARE IS UNDEREMPHASISED IN ERAS PROTOCOLS

- **Enhanced recovery after surgery (ERAS):** a framework for optimising perioperative care.
- **Impact:** surgical site infections and wound complications increase patient burden and healthcare costs.

This Issue Views **22,048** Citations **163** | Altmetric **69** | Comments **1**

Review

April 21, 2021

JAMA Surgery

Opportunities and Challenges for the Next Phase of Enhanced Recovery After Surgery
A Review

Olle Ljungqvist, MD, PhD¹; Hans D. de Boer, MD, PhD²; Angie Balfour, RN, MSc³; William J. Fawcett, MBBS⁴; Dileep N. Lobo, MS, DM^{5,6}; Gregg Nelson, MD, PhD^{7,8}; Michael J. Scott, MB, ChB⁹; Thomas W. Wainwright, BSc, MCSP^{10,11}; Nicolas Demartines, MD¹²

[» Author Affiliations](#)

JAMA Surg. 2021;156(8):775-784. doi:10.1001/jamasurg.2021.0586



No mention
of wound
care



INCIDENCE OF POST-OPERATIVE WOUND COMPLICATIONS IS UNDER REPORTED

General incidence:

- 15% of post-operative patients develop surgical wound complications (SWCs)
- 5–15% require hospital readmission within 30 days
- SSIs occur in ~2.5% of all surgical patients
- Procedure-specific incidence varies
- Geographical disparities — higher rates in low- and middle-income countries due to resource limitations.

Economic impact:

- SWCs significantly increase healthcare costs
- Cost of care for arthroplasty patients with SSIs is 5x higher
- U.S. annual SSI treatment cost: \$3.5 - \$10 billion.



PROFESSOR KEHLET ASKED THREE QUESTIONS...



Can every operation be ambulatory?



Why is the patient in hospital today?



What is it that we cannot control?

Prevention of surgical wound complications

What can we control:

- Pre-op screening
- Dressing choice
- Patient education and self-management
- Post-discharge monitoring and surveillance – use of technology and digital images?



THE IDEAL POST-SURGICAL DRESSING?



- Flexibility (not impede the patient's movement) and elasticity to avoid pulling the skin or blistering
- Good fixation
- Absorbency



- Skin protection (e.g. reduce the risk of blistering or irritation, not excessively adhesive)
- Water-resistance
- Elimination of dead space where necessary



- Patient comfort and atraumatic removal, reducing the risk of compromising skin integrity
- Visibility of incision.



ALLOW UNDISTURBED WOUND HEALING

JWOC Global Guideline

International Surgical Wound Complications Advisory Panel guideline for post-operative incision care



Consensus statement: In general, post-operative dressings should be left in place for around seven days or until the suture is removed on a clean surgical site. Dressings may be left in place for up to 14 days, depending upon patient circumstances, exudate level and goal of care.

Consensus statement: A dressing should be removed if it ceases to be intact or detaches from the wound edges, thus ceasing to be waterproof and exposing the incision to external contaminants. Dressing removal may also be required if the dressing becomes saturated with exudate or blood, if the incision shows signs of infection or if the patient shows signs of an allergic reaction to the dressing (e.g. itching, pain or erythema).



WOUND CARE TODAY

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ALLOW UNDISTURBED WOUND HEALING

Traditional dressings:

- Frequent dressing changes required
- Less effective at managing exudate, leading to higher risk of maceration
- Increased patient discomfort and potential for adhesive-related skin injuries
- Limited barrier against bacteria and contaminants.

Advanced (modern) dressings:

- Longer wear times, reducing frequency of dressing changes
- Superior exudate management, minimising maceration risk
- Enhanced patient comfort and reduced trauma during dressing changes
- Antimicrobial properties provide better infection prevention
- Improved flexibility, allowing for greater mobility without dressing disruption.



OUR PRACTICE AND EXPERIENCE

Audit:

Total hip replacement / standard patient information / advanced dressing used / follow-up at 3-week post op.

Results:

- 96% dressings did not restrict movement or irritate skin
- 95% showers did not require dressing changes (average 4.8 showers / patient)
- 85% confident in wound care at home
- 96% received post-discharge contact information.



OUR PRACTICE AND EXPERIENCE



Conclusion:

- Excellent compliance with ISWCAP checklist except for pre-op nutrition / lifestyle advice
- No post-discharge SWCs reported
- Procedure-specific checklists for THR may enhance future outcomes.



EDUCATIONAL GAPS IN WOUND CARE

- Shorter hospital stays demand self-managed care
- **Patient empowerment:**
 - Education on recognising optimal and suboptimal wound healing
 - Tools for early detection and intervention
 - Role of family caregivers and healthcare providers.

 National Wound Care Strategy Programme  Information for patients by patients

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

Is my surgical wound healing normally? Healthy wound healing vs. infection

How can wounds get infected?

Wounds heal in several stages. They heal best when they are clean and free from germs. Germs live harmlessly on our skin and the environment around us. Normally they live on our skin without causing any problems, but some can cause infections.

The skin acts as a barrier. If it is broken, germs may spread to the tissues underneath and this is how an infection can start. Open wounds are more likely to develop infections than wounds closed with stitches, staples or glue. Infections are more likely to develop after surgery on parts of the body that have lots of germs, such as the bowel.

Normal wound healing

Warmth, redness in white skin tones or discolouration in darker skin tones, some itching, and clear fluid, are normal when the wound first starts healing but should not continue past five days or get more severe.

Signs of an infected wound:

Signs of an infected wound are:

- More redness or a colour change around the wound edges.
- The wound feeling warmer or hotter.
- Swelling.
- Fluid leaking from the wound (often called pus) (this may be a different colour – yellow, green, cloudy or more smelly than usual).
- Increased pain which is not improving.
- Feeling unwell.
- Having a high temperature.



 National Wound Care Strategy Programme  Information for patients by patients

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.



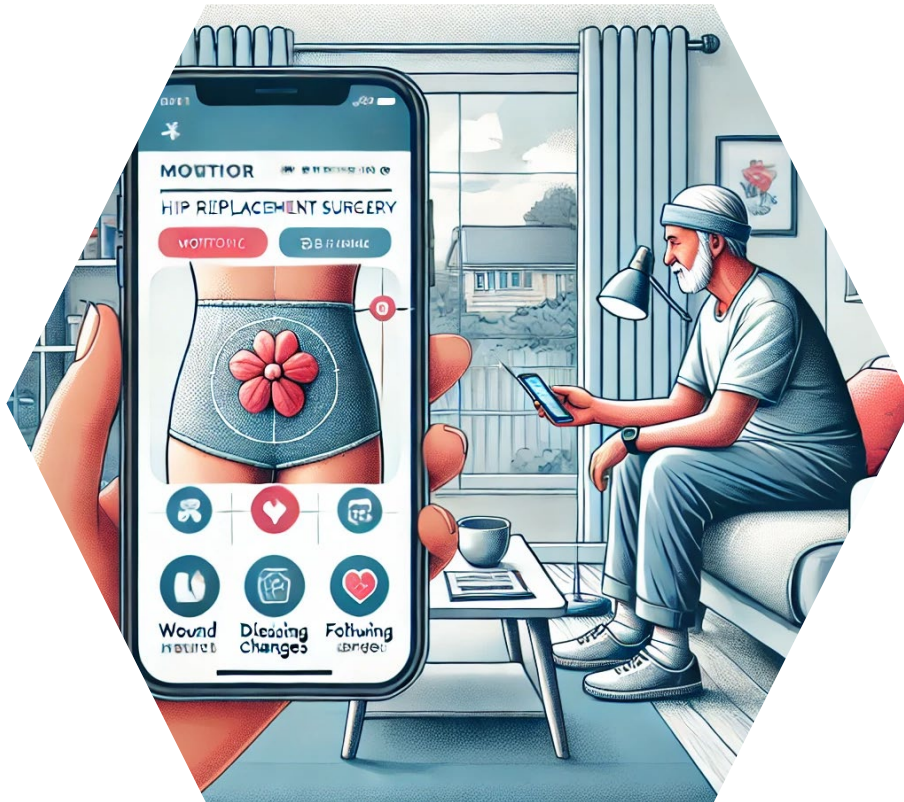
Your healthcare professional will tell you how to care for a surgical wound at home. This will include when you should change or remove the dressing. The original dressing may be left in place for around two to three days to give the wound time to start healing. When you remove the dressing:

- 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.

Examples - patient information leaflet

INNOVATIONS IN POST-DISCHARGE CARE



Digital solutions:

Telehealth, remote monitoring, and smartphone apps for real-time support.

Future directions:

Integrate these tools into ERAS protocols to bridge care gaps.



THE PATIENT PERSPECTIVE



‘I think the pain in the scar was my problem. The pain was so bad... it wasn’t actually in the hip. It was in the scar... it made it very difficult doing virtually everything.’



WOUND CARE TODAY

Gavin JP, Burgess LC, Immins T, Wainwright TW (2023) Understanding the patient perspective when designing future rehabilitation interventions after hip or knee replacement surgery — a patient and public involvement exercise. *Medicina (Kaunas)* **59(9)**: 1653



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THE PATIENT PERSPECTIVE



- It is what the patient sees
- The incision marks the beginning and end of any surgical procedure
- Psychologically, patients report increased confidence and satisfaction when the surgical incision heals uneventfully.



CONCLUSION

CALL TO ACTION...

Broaden ERAS protocols to include robust postoperative wound management.



DOWNLOAD YOUR CERTIFICATE

[WCT-LIVE.CO.UK/CERTIFICATE](https://wct-live.co.uk/certificate)





WOUND CARE TODAY

Wound Care Today 2025

TELFORD

12-13 MARCH

Registrations are now open