INTERNATIONAL SURGICAL WOUND COMPLICATIONS ADVISORY PANEL (ISWCAP)

ISWCAP
INTERNATIONAL SURGICAL WOUND COMPLICATIONS ADVISORY PANEL

INTERNATIONAL BEST PRACTICE RECOMMENDATIONS FOR

THE EARLY IDENTIFICATION AND PREVENTION OF SURGICAL WOUND COMPLICATIONS

RECOMMENDATIONS FROM AN EXPERT WORKING GROUP

Wounds International

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INTERNATIONAL EXPERT WORKING GROUP

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FOREWORD

It is estimated that surgical wound complications (SWCs) are one of the leading global causes of morbidity following surgery, with mortality affecting 1–4% of patients following gastrointestinal surgery (Pearse et al, 2012; Collaborative GS, 2017). The Lancet Commission on Global Surgery estimates over half of the 4.2 million post-operative deaths each year occur in low- to middle-income countries (LMICs; GBD, 2017). Reducing SWCs requires not only an expansion of services in LMICs but prioritising research aimed at safer surgical procedures with fewer preventable complications (Nepogodiev et al, 2019). Moreover, the impact of SWCs on patients and family members is considerable and not dissimilar to the plight of those suffering with chronic wounds.

Despite considerable advances in surgical techniques, intraoperative practice, a menagerie of wound dressings and an enhanced understanding of wound healing, SWCs continue to be a challenge to clinicians and researchers across the globe. Evidence suggests that SWCs are the most commonly managed wound type in some clinical care settings, more so than pressure injuries and other wound types (McIsaac, 2007; Mulligan et al, 2011; Sandy-Hodgetts et al, 2016; Guest et al, 2018).

While there has been considerable research conducted in the prevention and treatment of surgical site infection (SSI), we need to broaden our view to include all types of SWCs, such as dehiscence, where infection is absent from the complication. The International Surgical Wound Complications Advisory Panel (ISWCAP) has identified key gaps in our understanding of prevention and management of SWCs in order to improve patient outcomes following surgery. Formed in Australia during 2018, the President of ISWCAP convened a group of experts from Europe, North America, Asia, and the United Arab Emirates in October 2019 to develop internationally recognised recommendations for the early identification and prevention of SWCs.

The best practice statement, one of the strategic objectives of ISWCAP, arose from a survey of members in a variety of patient care settings in over 20 countries. The respondents opined on the current state of SWCs and the challenges encountered in their region of the world. In addition, a review of the available literature on SWCs identified gaps in the body of knowledge on the subject. Research has identified the risk factors for SSIs; however, complications can occur without infection.

A new paradigm, challenging the notion that all complications are related to infection, is required. In addition, a patient-centred view will broaden the scope of SWCs' early identification and prevention. Greater understanding of early identification and prevention will improve patient outcomes. This theme is consistent throughout these best practice recommendations.

Utilising contemporary digital platforms eases the communication burden across multidisciplinary teams (MDT) and engages patients, empowering them to actively participate in their health care decisions. With the use of digital platforms, early identification of an SWC may allow for early intervention and halt the escalation of a wound complication to more serious consequences.

Dr Kylie Sandy-Hodgetts, ISWCAP President

What is a 'surgical wound complication'?

The ISWCAP panel agreed it was important to define exactly what is meant by surgical wound complication (SWC) and what this includes, reaching consensus on agreed definitions and parameters.

Through a consensus-based approach, a definition for surgical wound complications was derived following a meeting of the expert panel:
A surgical wound complication is defined as a disruption to normal incisional wound healing following surgery.

This is a term that can include several, more specific, issues concerning surgical wound healing. The term 'surgical wound complication' is an umbrella term that encompasses more specific diagnoses.

Surgical wound complication is a term that includes, but is not limited to:

- **Surgical site infection (SSI)**
- **Surgical wound dehiscence (SWD)**
- **Hypergranulation**
- **Peri-wound maceration**
- **Scarring**
- **Medical adhesive-related skin injury (MARSI).**

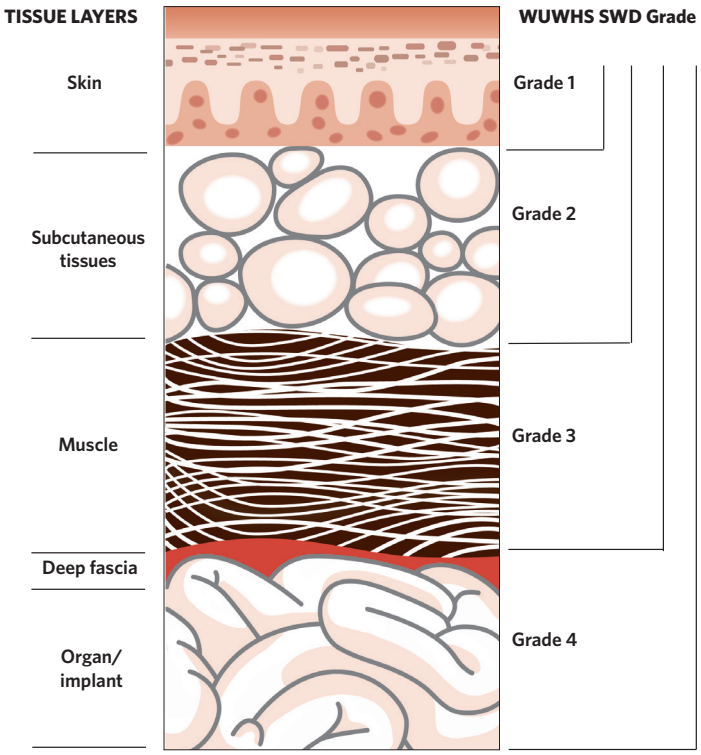
Surgical site infection (SSI)

SSI is defined as per the Centres for Disease Control definition (Horan et al, 1992): an infection that is present up to 30 days after a surgical procedure if no implants are placed and up to 1 year if an implantable device was placed in the patient. SSI is the leading cause for readmission to hospital and 3% of patients who contract an SSI will die (Minski, 2019). There are a number of global guidelines for the prevention of SSI in the operative setting (see Table 3, p11). SSI is an important issue; however, a tendency to focus only on infection, at the expense of other issues, leads to underdiagnosis of SWCs. SWCs can occur without infection (WUWHS, 2018).

Surgical wound dehiscence (SWD)

SWD is the breakdown of opposed or sutured margins and may or may not involve infection (WUWHS, 2018), i.e. SWD can occur without the presence of infection. A diagnostic and grading system is highlighted in Figure 1 (WUWHS, 2018). The current version of the World Health Organization's International Classification of Diseases (ICD-10) contains specific coding for SWD and can be used by medical coding accordingly, providing the wound is classified and reported as an SWD in the patient's medical record. Unfortunately, we have a limited understanding as to the incidence and prevalence of SWD due to inconsistencies in reporting terminology (Leaper et al, 2013; Sandy-Hodgetts et al, 2013).

FIGURE 1 | WUWHS SWD Grading system (WUWHS, 2018)



WUWHS SWD Sandy Grading System (adapted from Sandy SWD Grading System; WUWHS, 2018)

Definition: Surgical wound dehiscence (SWD) is the separation of the margins of a closed surgical incision that has been made in skin, 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. A dehisced incision may, or may not, display clinical signs and symptoms of infection.

	WUWHS SWD Grade*	Descriptors
Increasing severity; Single/multiple regions† or full-length separation of the margins of a closed surgical incision; occurring up to 30 days after the procedure‡	**1** Figure 1a, page 6	**Epidermis only, no visible subcutaneous tissue** ■ No clinical signs or symptoms of infection
	1a Figure 1b, page 6	As Grade 1 plus clinical signs and symptoms of infection
	2 Figure 1c, page 6	**Subcutaneous layer exposed, fascia not visible** ■ No clinical signs or symptoms of infection
	2a Figure 1d, page 6	As Grade 2 plus clinical signs and symptoms of infection
	3 Figure 1e, page 6	**Subcutaneous layers and fascia exposed** ■ No clinical signs and symptoms of infection
	3a Figure 1f, page 6	As Grade 3 plus clinical signs and symptoms of infection
	4^ Figure 1g, page 6	**Any area of fascial dehiscence with organ space, vicera, implant or bone exposed** ■ No clinical signs or symptoms of infection
	4a^ Figure 1h, page 6	As Grade 4 plus clinical signs and symptoms of infection= (e.g. organ/space SSI§)

**Grading should take place after full assessment including probing or exploration of the affected area as appropriate by a clinician with suitable competency*
†Where this is >1 region of separation of the wound margins, SWD should be graded according to the deepest point of separation
‡Where day 1 = the day of the procedure
§See Appendix 1, page 38, for the CDC definitions of the different types of SSI
^Grade 4/4a dehiscence of an abdominal incision may be called 'burst abdomen'

FIGURE 1 (Continued) | WUWHS SWD Grading system

a) WUWHS SWD **Grade 1**
Small area of dermal separation
b) WUWHS SWD **Grade 1a**
Post-mastectomy: small areas of dermal separation with inflammation and infection

c) WUWHS SWD **Grade 2**
Obese patient with exposed subcutaneous tissue and tunnel into pannus following surgery for seatbelt trauma
d) WUWHS SWD **Grade 2a**
Post-mammoplasty:
dermal separation with exposure of subcutaneous tissue with inflammation and purulent exudate

e) WUWHS SWD **Grade 3**
Post-spinal surgery: full length dehiscence with fascial exposure without signs of infection
f) WUWHS SWD **Grade 3a**
Leg incision: dehiscence exposing muscle and fascia with pus and cellulitis

g) WUWHS SWD **Grade 4**
Post-laparotomy: dehiscence with abdominal organ exposure and no signs of infection
h) WUWHS SWD **Grade 4a**
Separation of suture line with exposed hardware with inflammation and signs of infection

Phtotographs courtesy of: Figure 1a) Jacqui Fletcher; 1b), 1e), 1f) Risal Djohan; 1c), 1g), 1h) Caroline Fife; 1d) Franck Duteille. Reproduced with permission of WUWHS.

Hypergranulation

Hypergranulation (which may also be referred to as over-granulation or pyogenic granuloma) has been defined as an excess of granulation tissue that fills the wound bed to a greater extent than what is required and goes beyond the height of the surface of the wound, resulting in a raised tissue mass (Vuolo, 2010; McShane & Bellet, 2012). It often presents as a red friable, shiny tissue with a soft appearance, extending above the level of the surrounding skin. The excess granulation tissue prevents epithelial migration and impedes wound healing (Johnson, 2009; Stevens et al, 2009).

Peri-wound maceration

High levels of poorly managed exudate can cause damage to the surrounding skin of a wound or incision, known as peri-wound maceration. Excessive exudate may be caused by a range of factors including infection, oedema and lymphoedema.

Scarring

Scarring of the skin from burns or surgery is an enormous burden on the patient and healthcare system (Duke et al, 2015; Marshall et al, 2018). Excess scar tissue can last a considerable amount of time long after surgery, reducing mobility, delaying return to normal life and the visible aspect affecting the psychosocial wellbeing of the patient (Brown et al, 2008; Ziolkowsi et al, 2019). Considerable advances have been made towards our understanding of the molecular basis of scar formation, yet many questions remain with current research testing for effective therapies for scar prevention and clinical management.

Medical adhesive-related skin injury (MARSI)

Repeated application and removal of adhesive dressings and tapes can result in the stripping of the skin (Cooper, 2011), leading to pain, irritation and tissue breakdown. This is also known as MARSI, which is an under-recognised and preventable complication (McNichol et al, 2013). Use of medical adhesives may affect skin integrity, cause pain, increase risk of infection, potentially increase wound size and delay healing, all of which reduce patient quality of life unnecessarily. Improved educational is required around awareness and prevention of MARSI (Ousey & Wasek, 2016).

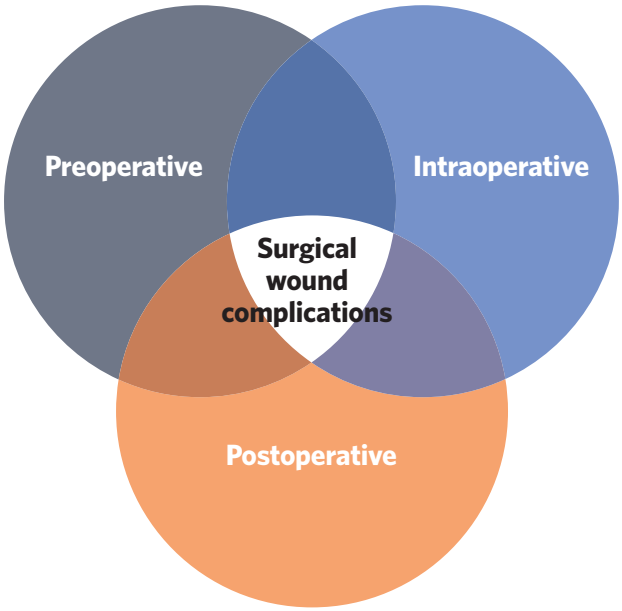
Background: The scope of the issue

SWCs have been shown to delay healing and result in considerable morbidity, mortality and related socioeconomic costs (Leaper et al, 2013; Sandy-Hodgetts et al, 2013). The economic burden and incidence of SSI has received worldwide attention; however, there is limited understanding of SWD (Grades I–IV), and other SWCs.

Research has reported close to half of a community nursing caseload consists of clinical management of SWD, with a point prevalence in a Western Australia setting of 4% (Sandy-Hodgetts et al, 2013). In addition, SWCs are a considerable burden across all healthcare settings (Guest et al, 2018). While some complications are reported in the acute care setting, the majority of complications occur following discharge in a community nursing setting, the true extent has yet to be reported (Sandy-Hodgetts et al, 2013; Leaper et al, 2015).

The risk of SWCs encompasses the patient's full surgical journey (Figure 2) and factors related to this type of wound complication span the preoperative, intraoperative and postoperative phases of the patient's journey, including post-discharge from acute care.

FIGURE 2 | The patient's surgical journey (Sandy-Hodgetts et al, 2018)



At present, most SSI surveillance is completed in the acute care setting, and hospital infection control programmes do not always include a standardised methodology for post-discharge surveillance (PDS), so the true rate of SSI is likely underreported (WUWHS, 2018). Moreover, the lack of standardisation for post-discharge data collection has resulted in a limited understanding of SWCs in the post-acute and home care areas. Early detection of a SWC is key to early intervention and reducing the likelihood of a wound complication progressing to a more complex situation.

Current standards for PDS involve following a patient for 30 days after hospital discharge to ascertain whether SSI develops (CDC, 1999; Bryce, 2013; National Healthcare Safety Network, 2014; Koek et al, 2015). According to Dixon et al (2010): "The challenge of determining a surgical site infection rate is great. Most infections become apparent after discharge from hospital, and in all probability, most people with infections do not get readmitted to the hospital where the surgery took place. The sensitivity of reporting from physicians and patients is low. Unless resources are devoted to the follow up of each patient, infection rates, as determined by standard surveillance, will invariably be an underestimation of the actual rate" (p25).

Risk factors for surgical wound complications

SWCs are often related to intrinsic or extrinsic factors or a combination of both. Populations at most risk of a complication are those with pre-existing comorbidities, chronic disease, poor nutrition, the elderly and poor lifestyle choices such as smoking. Most notably, complications are often associated with known factors that contribute to delayed wound healing (Table 1).

Table 1. Examples of factors and conditions associated with delayed/impaired wound healing (adapted from Sandy-Hodgetts et al, 2018)

Local factors	Hypoxia/ischaemia Devitalised tissue Infection/contamination Inflammatory conditions Larger initial incision Ongoing mechanical stress or trauma
Systemic factors	Age Psychological stress Chronic disease/comorbidities Medication/polypharmacy Radiotherapy Smoking, alcohol/substance dependency Malnutrition Connective tissue disorders Poor compliance with treatment plans
Extrinsic factors	Poor post-acute surveillance Poor education about wound healing after surgery Lack of use of technology to connect patients and care givers

Box 1. Definition of surgical site infection (SSI; Horan et al, 1992)

Can be superficial, deep, or organ space.

Occurs up to and including 30 days post-operative and includes one or all of the following:

1. Purulent drainage with or without laboratory confirmation from the incision site.
2. Organism isolated from aseptically obtained culture or fluid or tissue from the incision.
3. At least one of the following signs or symptoms of infection; pain or tenderness, localised swelling, redness, or heat and incision is deliberately opened by surgeon, unless incision is culture negative.
4. Diagnosis of SSI by attending physician or surgeon.

Box 2. Definition of surgical wound dehiscence (WUWHS, 2018)

The separation of the margins of a closed incision that has been made in the skin, with or without exposure or protrusion of underlying tissue, organs or implant. Separation may occur at single of multiple locations along the incision line and may or may not involve infection.

Early identification of those at risk

Early identification of those at risk of SWC is essential for prevention. A number of risk indices and models are available with varying levels of efficacy and validity for the clinical setting in detecting the patient's level of risk for incurring an SSI (Table 2). The use of a reliable, fit-for-purpose risk assessment system is crucial for timely identification of those at risk.

Table 2. Summary of current risk models for surgical wound complications (adapted from Sandy-Hodgetts et al, 2013)

Risk model/index/system	Type of complication	Clinical setting use and surgical domain
CeDAR (Augenstein et al, 2015)	SSI	Preoperative colorectal surgery
NNIS (Russo & Spelman, 2002)	SSI	Intraoperative, retrospective
Perth Surgical Wound Dehiscence Risk Assessment Tool (Sandy-Hodgetts et al, 2019)	SWD	Preoperative colorectal surgery, predictive
Fowler Risk Index (Fowler et al, 2005)	SSI	Intraoperative cardiothoracic surgery
P-POSSUM (Prytherch, 2003)	Morbidity and mortality	Intraoperative, general surgery
ASA Classification (Dripps, 1963)	SSI	Intraoperative All surgical domains
EuROSCORE (Nashef et al, 2002)	SSI	Preoperative cardiothoracic surgery

Current guidance

Current guidelines exist around SSI (Table 3), the focus being occurrence of infection with limited guidelines available on other known wound complications after surgery. Guidelines that encompass the entire patient journey are required for maximum clinical impact and improved patient outcomes. A genuine multidisciplinary team (MDT) approach is required to ensure all aspects of the patient's surgical journey are accounted for, which necessitates increased training and awareness for all involved.

Table 3. Summary of current guidelines for surgical wound complications (adapted from Sandy-Hodgetts et al, 2013)

Organisation	Guideline	Year	Notes
Centres for Disease Control (CDC)	Guideline for prevention of surgical site infection	2017	Surgical site infection focus
European Wound Management Association (EWMA)	Surgical site infections: Preventing and managing surgical site infections across healthcare sectors	2019	New guidance encompassing primary and secondary care Surgical site infection focus
Joint Commission International (JCI)	Evidence-based principles and practices for preventing surgical site infections	2018	Surgical site infection focus
National Institute of Health and Care Excellence (NICE)	Surgical site infections: Prevention and treatment (NG125)	2019	Updated in 2019 Surgical site infection focus
World Health Organization (WHO)	Global guidelines on the prevention of surgical site infection	2016	Surgical site infection focus
World Union of Wound Healing Societies (WUWHS)	Surgical wound dehiscence: Improving prevention and outcomes	2018	Consensus document Surgical wound dehiscence focus
Canadian Patient Safety Institute	Surgical Safety Checklist; Surgical site infection	2016	Surgical site infection information and surgical safety checklist

Managing risk of surgical wound complications

Managing risk usually requires a level of understanding as to the type of risk and its related consequences. Prevention of complications is complex, due to the wide range of patient-related, environmental and surgical factors and their interplay (WUWHS, 2018). Preventative measures must involve the risk assessment of a patient, which can be applied during several phases of their surgical journey. The most common risk assessments available for clinical use focus on the operative phase of the patient journey.

Use of the WHO Surgical Safety Checklist (Table 4), which includes measures throughout the patient's surgical journey, has been associated with significant reductions in rates of all complications, and improvements in mortality rates (Haynes et al, 2009). However, there is also concern about the challenge of implementing risk management measures successfully into practice (Leaper et al, 2015).

Table 4. WHO Surgical Safety Checklist (WHO, 2009)

Sign in (before induction of anaesthesia)	Patient has confirmed identity, site, procedure, consent
	Site marked/not applicable
	Anaesthesia safety check completed
	Pulse oximeter on patient and functioning
	Does patient have: ■ Known allergy? ■ Difficult airway/aspiration risk (equipment/assistance available? ■ Risk of over 500ml blood loss (7ml/kg in children)? ■ Adequate intravenous access and fluids planned?
Time out (before skin incision)	Confirm all team members have introduced themselves by name and role
	Surgeon, anaesthesia professional and nurse verbally confirm patient, site, procedure
	Anticipated critical events: ■ Surgeon reviews: what are the critical or unexpected steps, operative duration, anticipated blood loss? ■ Anaesthesia team reviews: are there any patient-specific concerns? ■ Nursing team reviews: has sterility (including indicator results) been confirmed? Are there equipment issues or concerns?
	Has antibiotic prophylaxis been given within the last 60 minutes?
	Is essential imaging displayed?
Sign out (before the patient leaves the operating room)	Nurse verbally confirms with the team: ■ The name of the procedure recorded ■ Instrument, sponge and needle counts are correct ■ How the specimen is labelled ■ Any equipment problems to be addressed
	Surgeon, anaesthesia professional and nurse review key concerns for recovery and management of this patient

While a number of SSI risk classification systems exist (see Table 2, p11), these are generally used for surveillance purposes, are used retrospectively, and are not used to guide clinical decision-making (Garner, 1985; Culver et al, 1991; NICE, 2019). Moreover, they are generally not utilised in the identification of high-risk patients prior to a surgical procedure.

The ISWCAP group proposes a patient-focused approach that encompasses all phases of the surgical journey. It is vital that extrinsic and intrinsic factors are considered in the assessment. Patient risk assessment is to be established as part of a comprehensive pre-surgical process in tandem with other validated risk assessment systems.

Patient assessment and clinical indicators of a wound complication

Care begins with a patient-focused assessment, and the patient should then be monitored throughout all stages of healing. In surgical wounds, it is particularly important to monitor the patient's health and healing progress, identifying whether the incision is healing well or if there are signs and symptoms of healing impairment that may lead to complications (WUWHS, 2018). It should be emphasised that pre-operative assessment is vital, establishing general health, existing conditions, medication, or any other risk factors that may contribute to SWCs.

In terms of initial surgical wound assessment, timing is key. In the first few days after surgery, signs of inflammation – e.g. warmth, erythema, oedema, discolouration, pain – are normal and do not necessarily indicate an issue with wound healing (Doughty, 2005). At-risk surgical wounds may show signs of inflammation beyond the time and extent expected for normal healing, extending beyond post-operative day 5. Consistent monitoring of the patient's incisional wound with minimal disruption to the wound bed and surrounding skin is crucial to early detection. Advanced wound dressings that allow for clear visualisation of the incision site without removal may be ideal during this time.

SWCs such as SSI are most commonly reported between days 7 and 9 (Horan et al, 1992; Leaper et al, 2013; Sandy-Hodgetts et al, 2017); however, this can vary from 1 day to more than 20 days after surgery including up to 90 days for implant surgery (Horan et al, 1992; Mir et al, 2016). The importance of PDS during this time period must not be underestimated.

Table 5. Signs and symptoms of surgical wound complication or infection (adapted from WUWHS, 2018)

Local signs and symptoms	Warmth
	Erythema
	Swelling/inflammation
	Unexpected pain or tenderness
	Pus or excess exudate
	Malodour
	Dehiscence (areas of separation from the wound margins)
	Crepitus (crackling feeling/sound detected on palpation, due to gas in the soft tissues)
	Collection of fluid under some or all of the incision (seroma, haematoma or abscess)
Systemic signs and symptoms	Malaise
	Loss of appetite
	Pyrexia or hypothermia
	Tachycardia
	Tachypnoea
	Elevated C-reactive protein (CRP)
	Elevated or suppressed white blood cell count
	Sepsis
	Septic shock

The patient's overall health and wellbeing should be monitored, including any feelings regarding their wound; for example, in patients with abdominal or sternal stitches, an incident of coughing or vomiting may result in a feeling of pulling or ripping that may indicate SWD (WUWHS, 2018).

A general assessment of the patient and their wound will guide the most appropriate management. Box 3 highlights aspects that should be assessed in a patient with a surgical wound.

Box 3. General assessment of a patient with SWD (adapted from WUWHS, 2018)

- **Medical and surgical history**, including:
  - Previous problems with wound healing – e.g. SWD, SSI
  - Radiotherapy
  - Chemotherapy
  - Allergies and sensitivities to medication and skin/wound products
- **Nature of the surgical procedure**, including:
  - Reason for surgery and date*
  - Emergency/elective
  - Intra-operative and post-operative complications – e.g. haemorrhage, hypothermia, duration of surgery, SSI
  - Closure method
  - Date of suture/clip removal
- **Current health**, including:
  - Need for haemodynamic or ventilatory support
  - Active comorbidities – e.g. diabetes mellitus, obesity, COPD, blood clotting factor deficiencies, anaemia/blood transfusions, cough/chest infection†, constipation†, dermatological conditions
  - Nutritional status – e.g. presence of malnutrition, level of hydration, ability to eat and drink
  - Physical parameters relating to possible systemic infection – e.g. core temperature, levels of inflammatory markers (e.g. CRP) and white blood cell count
- **Lifestyle**, including smoking, alcohol intake, diet, level of physical activity‡
- **Current medication** and reasons for use, including:
  - Anticoagulant/antiplatelet treatment
  - Chronic corticosteroids
  - Immunosuppressants
  - Antibiotics
  - Analgesics
- **Pain**, including current location and severity of pain, whether related to the wound or elsewhere; use of numeric or visual analogue scales can aid objective assessment and monitoring of pain severity; current pain management
- **Psychosocial status**, including:
  - Care setting
  - Family/carer support
  - Occupation and financial situation
  - Patient's understanding of and attitude to their condition and the incision and surgery
  - Ability and willingness to engage in care
  - Impact of wound on quality of life (physical, social and emotional)

**To calculate number of days since surgery; very early dehiscence may be due to technical issues and duration of SWD may influence management*
†Of particular relevance in patients which cardiothoracic or abdominal incisions
‡Post-operative mobilisation is important, however, depending on the position of the wound, overexertion may contribute to or exacerbate SWD

Classification of surgical wound complications

The need for a standardised classification system has been identified in SWD and was initially proposed as the Sandy Grading System (Sandy-Hodgetts, 2017; WUWHS, 2018). This is a new grading system related to the incisional wound dehiscence characteristics and is determined by the visible anatomical features at the incision site. It is intended that this grading system can provide a suitable diagnostic tool for enhanced decision-making for clinical management of SWD (Sandy-Hodgetts, 2017; WUWHS, 2018).

The aim is for this system to be validated and adopted in clinical practice, in order for standardised classification that informs bedside management. Furthermore, this system provides a standardised system to aid documentation and reporting of SWD, which can assist in describing and determining the prevalence of SWD.

The aim of structured assessment and standardised classification is to guide ongoing care. There is a clear need for patient-focused care pathways to be developed and used in practice across the MDT.

ISWCAP best practice statements

The ISWCAP group discussed and agreed upon the following key statements, in order to guide best practice and provide optimum care to patients.

Statement 1

Individual patient assessment should be undertaken as per local guidance during the pre, peri and post-operative periods (including post-discharge from acute care). Utilising an individualised care plan for prevention is ideal.

Statement 2

Local and national SSI policies must be evidence-based, and should be adhered to and documented in the patient notes with a seamless flow from discharge to community and primary healthcare settings. Post-discharge surveillance should be mandatory across teams.

Statement 3

There should be defined assessment, treatment and referral pathways in each clinical area for SWC management that utilise digital platforms for ease and rapid access of information.

Statement 4

Prevention and treatment should encompass a multidisciplinary team (MDT) approach that reflect the patient's surgical journey.

Statement 5

If a bacterial cause for an infection is suspected, appropriate microbiological investigations should be started to identify the causative agent(s). The use of antibiotics must comply with local antimicrobial stewardship policies.

Statement 6

Novel strategies for patient engagement should be used to aid early identification of SWC wherever necessary (e.g. dressings that allow visibility without removal, telemedicine in rural areas, new diagnostic technology, smart phone applications, validated fit-for-purpose risk assessment tools).

Statement 7

All surgical wound complications should be documented and reported appropriately and accurately, and using global standardised definitions.

Statement 8

Further research is required to expand scientific knowledge to determine evidence-based best practice for the prevention of surgical wound complications with regards to advanced wound care therapies.

Statement 9

Outcomes, including patient-reported outcomes, must be tracked, reported and, where possible, published, to enable a global understanding of the prevalence of SWCs.

Conclusions

Recently, there has been an increased focus on SSI; however, there are still considerable gaps in our knowledge of other SWCs, such as dehiscence. Further research is needed. Collection of prevalence data will assist in future studies in reducing the incidence of SWCs. It is vital that standardised pathways and toolkits are developed, and an MDT approach taken from monitoring and identification onwards, throughout the patient's surgical journey. Clear terminology and guidance should help this, educating clinicians and reinforcing that 'surgical wound complication' is a wider issue than simply SSI.

A patient-centred approach that encompasses the entire patient surgical journey is needed from SWC identification onwards. It is vital that care remains patient-centred. Patients must be informed and engaged in the care of their incisional wound. They must understand when and how to seek medical assistance.

ISWCAP remains committed to raising awareness and providing guidance on SWCs, with the goal of reducing complications and improving quality of life for patients across the globe.

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