Wound Care– Complex Surgical Wounds– Prevention and Management

Professor Zena Moore
PhD, MSc (Leadership in Health Professionals Education), MSc (Wound Healing & Tissue Repair), FFNMRCSI, PG Dip, Dip First Line Management, RGN

Professor of Nursing, Head of the School of Nursing & Midwifery, RCSI. Director of the SWaT Research Centre, RCSI.

Adjunct Professor, Faculty of Medicine, Nursing and Health Sciences, Monash University, Melbourne, Australia, Professor Department of Public Health, Faculty of Medicine and Health Sciences, Ghent University, Honorary Professor, Lida Institute, Shanghai, China, Senior Tutor, University of Wales.
Surgical Wounds

- The incidence density of in-hospital SSIs per 1000 post-operative patient-days varied from 0.2 to 5.7 depending on the type of surgical procedure\(^1\)
- SSI following CS is a common cause of morbidity with reported rates of 3–15\(^\%\)\(^2\)
- Mean length of extended hospital stay attributable to SSIs is 9.8 days, at an average cost per day of €325\(^3\)
- Healthcare costs for those with SSI are almost twice than for those without an SSI\(^3\)
- Within the EU an estimated €5.5 billion is being spent annually on the management SSIs\(^3\)

Why be concerned?

- Patients with SSIs have substantially greater physical limitations than those without an SSI and a significantly reduced health-related quality of life\(^1\)

- SSI’s are an independent predictor of mortality, particularly among the elderly where there is a 4 fold increased risk of death among older persons with SSI when compared to matched counterparts\(^2\)

- Those with a SSI are at 2-11 times higher risk of death compared with surgical patients without a SSI\(^2\)

- 38%-77% of deaths in those with SSI patients are directly related to infection\(^2\)


Why be concerned?

- Surgical wounds healing by secondary intention can have a devastating effect on patients, both physical and psychosocial.
- Repercussions for patients’ family members can also be extremely detrimental, including financial pressures.
- Health care professionals involved in the care of patients with these wounds face multiple, complex challenges, compounded by the limited evidence base regarding cost-effectiveness of different treatment regimens for these types of wounds.

Wound related factors affecting daily life.

- Pain
- Reduced mobility
- Difficulties with personal hygiene
- Muscle wasting
- Leakage
- Smell
- Infection
- Skin problems
- Side effects from medications
- Disrupted sleep
- Low mood
- Lack of energy

Psychosocial impact of open surgical wounds

Loss of control - life dominated by wound and need for care

Unemployment

Dependence

Feeling a burden

Financial worries

Low mood and depression

Change in lifestyle

Feelings of isolation

Reduced mobility

Loss of pleasure and joy in daily activities

Loss of independence

Detrimental impact on relationships with partner, children and others

• Alarm, shock and disbelief were frequently expressed initial reactions, particularly to “unexpected” surgical wounds healing by secondary intention.

• Wound associated factors almost universally had a profound negative impact on daily life, physical and psychosocial functioning, and wellbeing.

• Feelings of frustration, powerlessness and guilt were common and debilitating.

• Patients’ hopes for healing were often unrealistic, posing challenges for the clinicians caring for them.

• Participants expressed dissatisfaction with a perceived lack of continuity and consistency of care in relation to wound management.
Physiology of Wound Repair

Wounds Healing by Secondary Intention

Injury – Haemorrhage – Haemostasis
Inflammation – Proliferation
Contraction – Maturation
Healed Wound

Physiology of Wound Repair

For the purposes of discussion, wound healing is described in stages, however, these stages can overlap, but are distinct in terms of onset from time of injury.
Physiology of Wound Repair

Early inflammation:

- Haemorrhage
- Haemostasis
- Influx of inflammatory cells
Late inflammation:

Cells involved – Neutrophils & Macrophages

- Phagocytosis
- Debridement
- Synthesis of growth & regulatory factors
Physiology of Wound Repair

Proliferation:

- Granulation tissue production
- Angiogenesis
- Epithelialisation
- Wound Contraction
Problem of assessment & management

- Minimal clinical involvement of tissue viability nurses & other specialist nurses
- 30% of all wounds being managed within the NHS lacked a differential diagnosis
- Only 16% of patients with a lower leg ulcer or diabetic foot ulceration underwent a vascular assessment with the Doppler ABPI
- Dressing and bandage types were continually switched at successive wound dressing changes, indicating confusion and conflict within the treatment plan

Why Assess?

• Identify the aetiology of wound
• Predict problems with healing
• Identify status of wound repair
• Identify short & long term goals

Assessment

What to Assess

- The patient
- The wound
- The environment

The Wound

- Type
- Location/position
- Wound dimensions
- Condition of surrounding skin

Wound Assessment

• Necrotic tissue characteristics
• Sloughy tissue characteristics
• Granulation tissue characteristics
• Epithelialisation

Wound Exudate

- Serous: Clear fluid, no blood
- Serosanguineous: Watery pale red
- Sanguineous/bloody: Bloody, bright red
- Purulent: Thick, cloudy, yellow, tan

Infection- Key Points

• The development of a wound infection is dependent on the pathogenicity and virulence of the micro-organism and the immuno-competency of the host

• The host-pathogen interaction does not always lead to disease

• Microbiological assessment alone is not a reliable method for diagnosing wound infection.
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