

# A research roundup of recent papers relevant to wound care

This section brings together information found online and published in other journals about wound healing research. The aim is to provide an overview, rather than a detailed critique, of the papers selected.

## PREVALENCE AND INCIDENCE DENSITY OF UNAVOIDABLE PRESSURE ULCERS IN ELDERLY PATIENTS ADMITTED TO MEDICAL UNITS

Palese A, Trevisani B, Guarnier A, Barelli P, Zambiasi P et al (2017) *Journal of Tissue Viability* 26(2): 85–156

This publication describes the prevalence and incidence of hospital-acquired pressure ulcers deemed unavoidable in patients aged  $\geq 65$  years admitted to 12 acute medical units in 2012 and 2013 in 12 Italian hospitals. The study team defined unavoidable pressure ulcers as those that occurred in haemodynamically unstable patients, suffering from cachexia and/or terminal illness and were acquired after hospital admission. Patient demographic and pressure ulcer data was collected on a daily basis at the bedside by trained researchers. 96 patients (6.5%) developed hospital-acquired pressure ulcers, 19 (19.7%) of these were unavoidable. The incidence of unavoidable pressure ulcer was reported as 8.5/100 bed days. The researchers found no statistically significant differences in patient and pressure ulcers between patients that acquired unavoidable and avoidable pressure sores.

### Implications for Practice

It is clear from practice and the findings of this article that pressure ulcers occur in patients receiving care that reflects best practice. More research is needed into the pathophysiology of ulceration, patient risk factors and prevention strategies. This in turn can be then used to support clinicians, managers and policymakers. Furthermore, and perhaps an essential first step, in order to strengthen finding in the adoption of an internationally recognised definition of an unavoidable pressure ulcer.



## A DECADE OF RESEARCH ON INCONTINENCE-ASSOCIATED DERMATITIS (IAD): EVIDENCE, KNOWLEDGE GAPS AND NEXT STEPS

Beeckman D (2017) *Journal of Tissue Viability* 26(1): 47–56

The author of this paper reviews the current body of knowledge in relation to incontinence-associated dermatitis (IAD), the prevalence in the elderly and its association with pressure ulcer development. Incontinence causes disruptions of the skin barrier function and leads to superficial skin damage. Macerated skin and superficial skin changes due to incontinence are associated with pressure ulcer development. Beeckman suggests that skin maceration, chemical and physical irritation should be targeted to manage IAD. Current management focuses on skin cleansing and moisturisation to repair and or amplify the skin's barrier, and application of barrier products to prevent breakdown. The author stresses that tissue viability and incontinence practitioners must work together to develop this clinical field. The evidence is still limited but knowledge has been growing knowledge over the last decade. Perhaps most importantly is the development of an internationally validated and standardised method for IAD data collection, in order to reduce variations in the current epidemiological data. The second point of note is validation of tools to help clinicians in the correct diagnosis of IAD and enable its true distinction from pressure ulcers as this also remains problematic in practice.

### Implications for Practice

IAD management should essentially focus on skin cleansing to remove dirt, debris and microorganisms; skin moisturization to repair or augment the skin's barrier; and the application of a skin barrier product to prevent skin breakdown by providing an impermeable or semi-permeable barrier on the skin.



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**NURSES' PRACTICE IN PREVENTING POSTOPERATIVE WOUND INFECTIONS: AN OBSERVATIONAL STUDY**

Ding S, Lin F, Marshall AP, Gillespie BM (2017)  
*J Wound Care* 26(1): <https://doi.org/10.12968/jowc.2017.26.1.28>

Surgical site infections (SSIs) lead to undesired patient outcomes. This cross sectional prospective study observed a convenience sample of 60 nurses in four surgical units, using a standardised audit tool. Of 60 observed wound care episodes, post-procedure hand hygiene ( $n=49$ , 81.7%) was less evident compared with pre-procedure hand hygiene practice ( $n=57$ , 95%). Over one third of nurses observed did not use clean gloves correctly ( $n=16$ , 38.1%) and one in five of these did not properly use sterile gloves ( $n=4$ , 22%). 61.7% ( $n=37$ ) did not educate patients on post-discharge wound management. Fewer than a quarter ( $n=14$ , 23.3%) of wound care events were recorded on both wound assessment charts and patients' progress notes. Inter-rater reliability testing of the audit team indicated good agreement (intra-class correlation coefficient 0.859; 95% CI: 0.771–0.923;  $p<0.0005$ ). The study highlights clinical practice that is not reflective of current best practice recommendations on aseptic technique compliance, patient education, and wound assessment/documentation. The authors did not follow patients to determine if any of the study population developed an SSI, as such it is difficult to ascertain the impact of the findings in relation to the risk of SSI development. Despite this limitation, the authors suggest that to minimise SSI, current practices need to be evaluated and strategies that help to incorporate evidence into practice need to be further explored.

*Implications for Practice*

Current surgical wound management practices need to be brought in line with evidence-based guideline recommendations. Efforts need to be made to narrow the gap between guidance and practice in areas such aseptic technique compliance, patient education, wound assessment and documentation. **WUK**

**THE PREVALENCE OF BIOFILMS IN CHRONIC WOUNDS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF PUBLISHED DATA**

Malone M, Bjarnsholt T, McBain AJ et al (2017)  
*J Wound Care* 26(1):20–25

Biofilms in chronic non-healing wounds, have been identified using *in vitro* wound models and *in vivo* animal data. The authors of this paper undertook a systematic review and meta-analysis to ascertain the prevalence of biofilms in human chronic wounds. They found, perhaps not unsurprisingly, that human chronic wound studies are under-represented as they generally report low sample sizes. Their initial search identified 554 studies from the literature databases (Cochrane Library, Embase, Medline). Once duplicates and those not meeting inclusion criteria were removed only nine studies remained that involved 185 chronic wounds. When pooled the prevalence of biofilms in chronic wounds was 78.2 % (confidence interval [CI 61.6-89,  $p<0.002$ ]). The authors concluded that the meta-analysis supports clinical assumptions that biofilms are not only present in human chronic wounds. It is thought that biofilm formation contributes to wound chronicity. More research is needed on the best form of treatment to reduce the impact on patients and on healthcare systems. In addition, it appears evident that clinicians must agree local strategies that enable treatment of these if we are to minimise chronicity and positively impact on healing rates.

*Implications for Practice*

This study is part of a growing body of evidence, suggesting that biofilms play an important role in wound chronicity. Biofilm structures are invisible to the eye and are mostly found in chronic wounds. Biofilm is important barrier to healing in chronic wounds. More research is needed to agree on the best form of treatment to reduce the impact on patients and on healthcare systems. **WUK**