



REVIEW ARTICLE

# A review of blisters caused by wound dressing components: Can they impede post-operative rehabilitation and discharge?

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## KEYWORDS

Post-surgical blisters;  
Mobility;  
Physiotherapy;  
Rehabilitation;  
Wound dressings

**Abstract** This review highlights that some wound dressings can be the cause of blistering. It also presents the mechanisms by which blisters may be caused by poor choice of dressings. The subsequent impact of the blisters on preventing patient mobility – and hence rehabilitation in terms of physiotherapy – is also identified. The possibility that the clinical sequelae (e.g. delayed wound healing, restricted joint range of motion (ROM), muscle atrophy and increased risk of deep vein thrombosis (DVT)) resulting from this might have a significant and deleterious impact upon patient-related outcomes is discussed. Strategies for the treatment and prevention of blisters are proposed, based upon current knowledge and expertise. The criticality of the wound care specialist and the physiotherapist working together to overcome these challenges and enhance patient care is underlined. This article is a review of the relevant literature combined with opinions based upon the experience and knowledge of the authors.

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### Editor comments

Any wound is likely to have an adverse impact on the patient experience of recovery from surgery, most specifically in relation to pain and the impact on mobility. Wound blistering following orthopaedic surgery is a well-known problem. This original paper discusses this, however, from a new perspective by acknowledging that the presence of blistering can have an additional impact on outcomes by restricting joint range of motion and hampering mobilisation and rehabilitation. These problems present specific challenges for the care team, not least the physiotherapist, and the authors of the paper offer sound guidance for practice.

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## Introduction

Using information sourced from a thorough literature review, this article aims to highlight the evidence which supports the hypothesis that the presence of blisters associated with a wound could significantly impact patient mobility (due to pain or fear of wound dehiscence) and delay the rehabilitation process, possibly leading to more severe clinical complications such as an increased risk of deep vein thrombosis (DVT).

## Background

Rehabilitation of patients with post-operative wounds, whether they are acute or chronic, is primarily incumbent upon a clinical team of nurses and physicians of which the physiotherapist is part. It is logical to assume that the treatment regimen of these patients will impact to a greater or lesser extent on patient rehabilitation. Specifically this will relate to any wound dressings used that might aid, or interfere with, the mobility of the patient. Of great importance is the presence of a clinical condition (allied to the wound) that might also interfere with early mobility, rehabilitation and discharge of the patient. In the experience of the authors one such condition that significantly impinges on these aspects is the presence of blisters. A blister is defined as a

saccular skin vesicle filled with serous fluid, which separates the epidermis and/or dermis, and which may be linked to shearing forces caused by trauma, friction, burn or a vesicatory agent (Segen, 2012). Examples of blisters are shown in Figs. 1–4. In patients who have undergone surgical procedures, blisters caused by wound dressings are common, painful and may ultimately become infected (Ravenscroft et al., 2006). The result of this might be that patient rehabilitation, mobilisation and ultimate discharge are delayed, leading to increasing associated costs. Additionally, there is a danger that the delayed mobilisation of the patient (required in some surgical



**Fig. 1** Severe blistering on leg (Photograph kindly supplied by Karen Ousey).

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