

## IN BRIEF A Summary of the Evidence

# Polyurethane Foam Dressings for the Prevention of Pressure Ulcers: A Review

## Key Messages

- For at-risk adults in most settings, polyurethane foam dressings may reduce the incidence of pressure ulcers.
- For patients with traumatic spinal cord injury, the use of polyurethane foam dressings instead of a gel mattress in the emergency room while awaiting surgery does not appear to be beneficial and may be harmful (based on limited evidence).
- Polyurethane foam dressings are relatively inexpensive; however, their cost-effectiveness in a Canadian context for pressure ulcer prevention is uncertain.
- Guidelines recommend that health care providers consider applying a polyurethane foam dressing to bony prominences in addition to all other standard pressure ulcer prevention measures such as frequent repositioning and regularly inspecting the skin (the recommendation is rated as weak and as being based on evidence of variable quality).

## Context

Pressure ulcers are localized areas of damage to the skin and/or underlying tissue that result from high or prolonged pressure, or pressure in combination with friction, shear, or moisture. In Canada, the prevalence of pressure ulcers ranges from approximately 15.1% in community care to 29.9% in non-acute settings, with an overall estimate of 26.0% across health care institutions. People are at a higher risk of developing pressure ulcers if they are 65 years of age or older, have decreased mobility, are exposed to skin irritants, or have an impaired

capacity for wound healing. Pressure ulcers occur most frequently in the elderly because of their lower amount of subcutaneous fat and reduced capillary blood flow, and in individuals who cannot reposition themselves, such as patients experiencing a prolonged hospital stay, who are undergoing surgery, or who have neurological deficits such as spinal cord injury. Pressure ulcers can range in severity from mild damage and irritation to the death of tissue (necrosis). Pressure ulcers can lead to severe medical complications, including local and systemic infections, can have a negative impact on the quality of life of affected individuals, and can pose a substantial financial burden to the health care system.

## Technology

Polyurethane foam dressings are increasingly being used for pressure ulcer prevention. They can be applied to areas of the body that are vulnerable to pressure, friction, shear, and moisture, such as the sacrum and heels. It is thought that by redistributing pressure, reducing friction and shear force to the skin, and managing humidity, these dressings can help prevent pressure ulcers.

## Issue

A review of the clinical effectiveness, cost-effectiveness, and evidence-based guidelines regarding the preventive use of polyurethane foam dressings in adult patients at risk for developing pressure ulcers in any setting will help to guide decisions regarding adoption of this technology in clinical practice.

## Methods

A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

## Results

The literature search produced 131 articles, with one additional study identified from other sources. Of these, 32 were deemed potentially relevant and nine met the criteria for inclusion in this review – two systematic reviews, four primary studies, one economic study, and two evidence-based guidelines.

### Read more about CADTH and its review of polyurethane foam dressings for the prevention of pressure ulcers at:



[www.cadth.ca/polyurethane-foam-dressings-prevention-pressure-ulcers-clinical-and-cost-effectiveness-and](http://www.cadth.ca/polyurethane-foam-dressings-prevention-pressure-ulcers-clinical-and-cost-effectiveness-and)

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