Pressure Ulcer Prophylaxis:
Cyanoacrylate, thinking beyond the dressing

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Conclusions

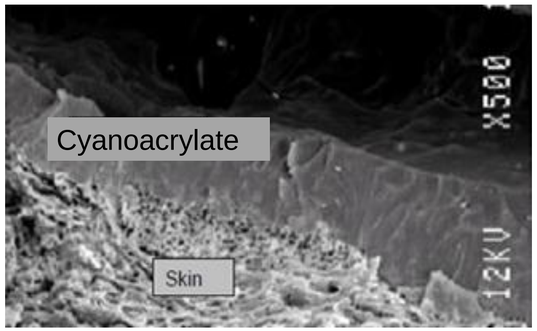
The use of a cyanoacrylate* skin sealant is a useful and effective prevention tool for clinicians in the prevention of sacral skin injuries in critically ill adults. Our convenience samples had near equivalent outcomes.

Introduction

Clinicians have adopted multiple sacral dressing applications as part of a comprehensive pressure ulcer prevention programs. However, some dressings obstruct the clinical assessment of sacral skin in vulnerable adults. The removal of most dressings alters the integrity of the dressing leading to the potential of multiple costly and inconvenient applications.

Purpose

To evaluate the use of a cyanoacrylate skin sealant on all patients with *intact* skin and to determine the effectiveness in preventing sacral skin injury that may be a factor in pressure ulcer (PU) formation in adult surgical, trauma, and burn ICU patients (STBICU).



A >20µm layer of cyanoacrylate-based barrier can be clearly seen at x500 magnification

Methods

A pre-post sample was obtained. 362 patients were pre-cyanoacrylate and 238 patients received cyanoacrylate patients. Post-baseline project evaluation is continuing at time of publication.

Incidence rate = no. of PU/Sum of pts- time @ risk.

Pre-Incidence calculated on patients over a one month period using standard silicone dressing sacral skin injury prophylaxis. Post-Incidence the following month was subsequently evaluated as cyanoacrylate was substituted for the standard sacral dressing for sacral skin injury prophylaxis.

Sample

The University of Virginia is a Level 1 trauma center with a 15 bed surgical trauma ICU. Patients admitted to the unit in early 2014 served as the sample.

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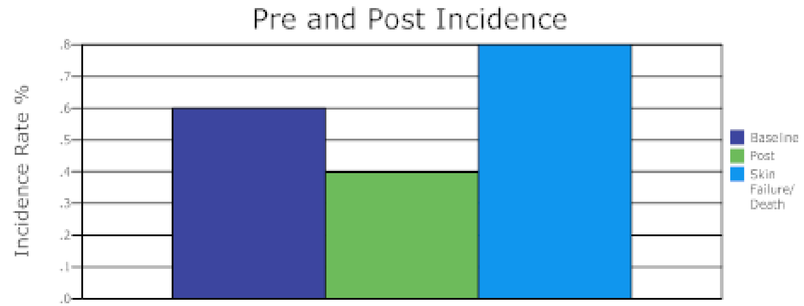
Special thanks to STBICU staff as if for not their compassionate and commitment to evidence-based practice this project would not be possible.

Results

Incident rates of sacral skin injury was reported in pre sample of .6 % N=362
Incidence rates of sacral skin injuries was reported in post sample of .4% N=238

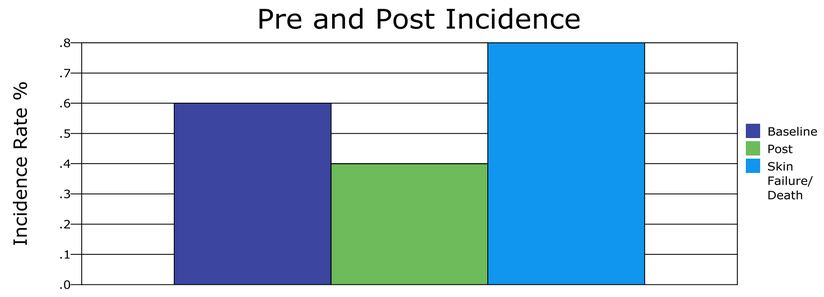


Discussion

The third data series in the chart below is noteworthy in that 5 patients with identified sacral skin injury ultimately died (1 in Baseline group, 4 in cyanoacrylate group). These patients were removed from data calculation and reported as "skin failure" outliers.

Prevention methods beyond the dressing must be considered when developing cost-effective strategies. The use of a cyanoacrylate skin sealant is a promising, cost-effective alternative to dressings in the prevention of sacral skin injuries that may lead to pressure ulcer formation.

[1]Cyanoacrylate skin sealant available commercially as Marathon Liquid Skin Sealant, Medline Industries, Inc.


Pre and Post Incidence
Incidence Rate %
.8
.7
.6
.5
.4
.3
.2
.1
.0
Baseline
Post
Skin Failure/ Death