



Service Priorities and Programmes Electronic Presentations

Convention ID: 744

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Use of Silicone Foam Dressing in the Prevention of Sacral and Coccygeal Pressure Ulcers in Critical Care Settings

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Keywords:

Prevention of pressure ulcers in critical care units

Silicone Foam Dressing

Reduce pressure ulcer incidence rate

Introduction

The development of pressure ulcers is one of the key indicators of the quality of patient care. Despite the implementation of preventive measures such as frequent turning, use of pressure-relieving devices, and nutritional improvement, some critically-ill patients still developed pressure ulcers.

Silicone multi-layered foam dressing can displace the friction to the outer layer of the dressing, relieve local shear forces, absorb moisture, redistribute pressure to a larger deflection area, and provide greater load redistribution. Prophylactic use of this dressing has been shown to decrease the incidence and prevalence of hospital-acquired pressure ulcers.

The incidence of pressure ulcer in Queen Mary Hospital (QMH) was 0.06–0.14 per 1000 patient bed days in 2014. However, an incidence of 0.59 per 1000 patient bed days was observed in the Intensive Care Unit (ICU) in the same period.

Objectives

The purpose of this study is to investigate the clinical efficacy of silicone foam dressing in reducing sacral and coccygeal pressure ulcer incidence as compared to standard preventive interventions in the critical care units (ICU and high dependency units [HDU]) of QMH.

Methodology

Observation period (3 months)

Critical care units of QMH were defined as adult ICU, cardiothoracic ICU, neurosurgical ICU, orthopaedic HDU, surgical HDU, and respiratory HDU. The pressure ulcer incidence in these units was recorded. Routine pressure ulcer prevention measures were implemented according to hospital guidelines.

Intervention period (6 months)

Silicone foam dressing was applied to the sacral and coccygeal areas of patients in critical areas with Norton score ≤ 14 after informed consent was obtained. Skin condition was examined daily. The dressing was changed every 3 days or when soaked by urine or faeces. Routine pressure ulcer prevention measures were continued.

Result

Preliminary result:

A total of 290 patients were enrolled in the observation period. Eight patients developed stage 1 and eleven patients developed stage 2 pressure ulcers. The baseline incidence was 11.6 per 1000 patient bed days. During the intervention period, 136 patients were recruited. Four patients developed stage 1 and two patients developed stage 2 pressure ulcers, giving an incidence of 6 per 1000 patient bed days. There was a 48.3% decrease in the incidence of pressure ulcer formation.

This study showed significant reduction in pressure ulcer incidence in critically ill patients using silicone foam dressing. The additional use of this dressing to routine pressure ulcer preventive measures may further decrease the development of pressure ulcers in the critical care setting.