Aim:
Avoiding skin injury is critical to optimizing outcomes in hospitalized patients. High rates of pressure ulcers have been reported among patients in pediatric and adult intensive care units (ICUs), but little data on incidence or prevention is available for neonatal ICU patients. By determining the incidence of pressure ulcers among neonatal ICU patients, targeted interventions to reduce these injuries may be developed.

AIM 1. Determine the baseline incidence of pressure ulcers among neonatal ICU patients by December 2013.
AIM 2. Determine the causes of pressure ulcers among neonatal ICU patients by December 2013.

Setting:
Fifty-six bed, Level IIIC all-referral neonatal ICU in an academic children’s hospital.

Mechanisms/Methods:
An interdisciplinary team was formed on the unit and underwent standardized training over a 4-week period to detect and stage pressure ulcers. This team rounded on all admitted patients weekly to assess for the presence of pressure ulcers and to provide bedside education to nurses. Additionally, all patients were assessed at least two times daily for the presence of pressure ulcers by the bedside nurses. All pressure ulcers, excluding Stage I, were further assessed by the hospital’s wound/ostomy nurses for confirmation of staging and treatment recommendations. Initial staff resistance to the change in routine was overcome by education via in-services and self-studies on skin injury prevention.

Measures:
Pressure ulcers were staged according to the National Pressure Ulcer Advisory Panel staging system. The incidence of pressure ulcers, excluding Stage I, was reported as injuries per 1,000 patient days.

Data/Results:
The Skin Team rounded on a median of 48 patients/week for 113 weeks, for a total of 5,395 patient assessments, accounting for 97.9% of patients admitted to the unit during that time. A total of 151 pressure ulcers were identified. The overall incidence of pressure ulcers, excluding Stage I, was 3.56 pressure ulcers per 1,000 patient days. The incidence of pressure ulcers after the formation of the unit-based skin team increased significantly from a baseline of 0.49 injuries per 1,000 patient days, demonstrating an improved detection and reporting of ulcers with standardized skin rounds.

Stage II and stage III pressure ulcers accounted for 63% and 3% of the injuries assessed, respectively, while suspected deep tissue injuries and unstageable pressure ulcers accounted for 17.9% and 4.6% of the injuries, respectively. There were no Stage IV pressure ulcers identified. Mucosal injuries accounted for 12% of the total pressure ulcers.

The greatest cause of pressure ulcers was respiratory devices, especially CPAP, followed by immobility. Other causes of pressure ulcers included intravenous devices, gastrointestinal devices, and other tubes or cables. Device-related injuries accounted for 90.1% of the pressure ulcers detected.

Discussion:
A dedicated Skin Team can improve the detection and reporting of pressure ulcers among neonatal ICU patients. Determination of the incidence of pressure ulcers in this population is an important first step in defining the problem so that targeted interventions may be developed. We have created what we believe is the largest database of skin injury in neonatal ICU care, by means of an interdisciplinary team focused on skin injury prevention, education, and regular skin assessments of all infants. This skin care approach could serve as a model for other institutions.
Bibliography:


