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Deep Tissue Pressure Injury (DTPI): Predictors and Risk Factors During Hospitalization. A Literature Review

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Background: Deep tissue pressure injuries (DTPI) at Maine Medical Center (MMC) have increased from 2014 to 2016. DTPI initially appear as purple or maroon discoloration and either resolve or evolve into a deeper wound. When a DTPI evolves into an eschar, this is called an unstageable pressure injury by the National Pressure Ulcer Advisory Panel. Patients with an unstageable, stage 3 or 4 pressure injury are reported to the State of Maine according to Maine Law. This is considered a sentinel event or a never event. MMC reported 17 pressure injuries to the state of Maine in 2016. Thirteen out of the seventeen reportable ulcers started off as deep tissue pressure injuries.

During a chart review (Internal Data), it was found that our Wound, Ostomy and Continence Nurses (WOCN) are often consulted after the deep tissue injury has already occurred. Our data also showed that patients had blanching and non-blanching erythema preceding the development of DTPI.

Purpose: The purpose of this project is to conduct a literature review and develop strategies to identify those patients at risk in order to reduce the incidence of DTPIs. The goal is to reduce our overall number of reportable ulcers.

Literature: Patients at risk for DTPI are similar to those at risk for pressure injuries in general. The risk factors reported in the literature are: a total Braden score of 13 or less, cardiovascular disease, shock, dialysis patients, patients staying in OR 3 hours or longer, patients on vasoactive medications, patients with poor mobility and patients with transfers to hospital via ambulance and patients with fecal incontinence. Also the literature reports that patients with low hemoglobin are at a higher risk for DPTI and that blanching redness does not eliminate pressure injury risk.

Methods/Plan and Next Steps: My plan is to discuss the findings of this literature search with my WOCN team to develop and implement a wound nurse consult process, based on identified risk factors of DTPI. There are modalities that can assess for DTPI under the skin including thermography and ultrasonography. While the literature on those modalities has not yet been reported in this abstract/presentation, this would be a next step to this project. Another next step for a future study is looking at the National Pressure Ulcer Advisory Panel (NPUAP) guidelines and identifying the gaps in clinical practice here at MMC.