00272 An Explorative Study on the Diagnostic Capacity of an Infrared Thermography Device in Detecting Stage I and Suspected Deep Tissue Pressure Injury

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Aims: To explore the diagnostic capacity of the infrared thermography device in assessing skin temperature among Stage I pressure injuries and/or suspected deep tissue pressure injuries (DTPI) with intact skin.

Methodology: A case-control study design was adopted. Any adult inpatients who had stage I or suspected DTPI on the sacral or heel during the study period (March – April 2018) were recruited. Thermal images of the patient's PI site and non-PI site were taken within 24 hours of PI occurrence. Thermal image of the control patients (no PI) was also taken. Each PI case was matched to 3 controls in terms of age, gender, race and anatomical sites. All thermal images were taken using a portable and lightweight CAT S60 Thermal Imaging Rugged Smartphone. The thermal image will provide the skin temperature readings of the PI sites and the non-PI sites for comparison between cases and control patients.

Result: 17 cases and with 51 controls were recruited. Among the cases, the mean difference in skin temperature between the PI site (mean=31.14?C, SD 1.54) and non-PI sites (Mean=28.93?C, SD3.47) was significant (2.21±3.66?C) (p=0·024). When comparing cases to controls, the mean difference in temperature was non-significant even after adjusting for body temperature and ambient temperature.

Conclusion: A difference in skin temperature between different parts of the body may act as a predictor for pressure injury development.