TO COMPARE EFFECTIVENESS OF INFRARED SPECTROSCOPIC TECHNOLOGY WITH CONVENTIONAL PERIPHERAL VENOUS ACCESS IN CHILDREN: RANDOMIZED CONTROL STUDY

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Background Although considered to be a routine minor intervention, intravenous cannulation can often be difficult and potentially painful. The implications maybe more pronounced in younger children. Otica pediatric LED uses near infra-red light to enhance the visibility of veins and thus to negotiate difficult venous access. In our study we hoped to explore the utility of NEAR INFRARED TECHNOLOGY in children with difficult peripheral venous access.

Objectives To assess the superiority of near infra-red spectroscopic technology over conventional vein viewing techniques in children with difficult peripheral venous access.

Methods From November 2018 to August 2020, 509 children aged 3 to 36 months satisfying the inclusion criteria for difficult cannulation (based on DIVA score) were included. Randomization was attempted by employing Otica pediatric LED (intervention group) and conventional methods (control group) every alternate fortnightly by the same set of residents. The median no. of attempts was lower in the intervention group (1; IQR 1–2) than in the control group (2; IQR 1–3, p < 0.001). Proportion of cannulations successful in the first attempt was 64% (136 of 211) in the intervention group and 40% (119 out of 298) in the control group (p < 0.001). From the subgroup analysis we found significant difference between both the groups when analysed across the age-groups as well as the nutritional status. An interesting finding in the trial is that the advantage with the NIR device was significant in children requiring more than one instance of cannulation (those that are not IV line naive).

Conclusions Our study found a significant clinical advantage with the use of Otica pediatric LED consistent across the sub groups. However to vouch for any routine recommendation will require a larger and perhaps a multicenter study to begin with. While the busy and shuffling schedule of a residency inherently weighs down on any interventional study to begin with. While the busy and shuffling schedule of a residency inherently weighs down on any interventional study, the results of our study calls for an optimistic investment into the research in near infrared technology for standard cannulation procedures.

REDUCING BLOOD TESTING IN PICU, A QUICK QI PROJECT

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Background Critically ill children are at significant risk of repeated blood sampling for laboratory testing, which could lead to nosocomial anaemia and blood transfusions. We aimed to optimise blood testing and the associated costs in PICU without adversely impacting patient safety and outcome.

Objectives As part of the quality improvement initiative, a bedside guideline for common blood tests was introduced in 2014 based on a patient stratification system. We wanted to check if our practice is compliant with the guideline.