Clinical trial investigates near-infrared light to aid peripheral intravenous cannulation in children


Summary:

Intravenous cannulation can be difficult in children. Recently, new devices using near-infrared light to make blood vessels visible have become available. We aimed to evaluate the effectiveness of three such devices in facilitating peripheral intravenous cannulation in children. In this cluster randomised clinical trial, daily operating rooms at a tertiary childrens’ hospital were randomised to the use of the VeinViewer®, AccuVein® AV300, VascuLuminator Vision® or to a control group. We included 1913 children between birth and 18 years scheduled for elective surgery. Suitable veins for cannulation were more easily visible with the VeinViewer (307/322 (95.3%)) and AccuVein (239/254 (94.1%)) devices than with VascuLuminator (229/257 (89.1%)) (p = 0.03). However, success at the first attempt was not significantly different among groups, ranging from 73.1% to 75.3% (p = 0.93). We conclude that although vein visibility is enhanced, near-infrared devices do not improve cannulation.