The DripAssist™ device we investigated monitors drip rates by counting drops in the IV tubing drip chamber. It securely attaches to IV tubing, is small, weighs 3.8 oz., lasts 290 hours on a single AA battery, and will alarm for a +/- 13% change in rate from the set rate. We theorized this may provide a useful patient safety bridge in the austere, out-of-hospital, or battlefield patient care environments” Couperus et al (2017).

Abstract:

Study Objectives: Intravenous (IV) administration of fluids and medications are a significant part of patient treatment. They are classically set through gravity with roller clamps and drip counts, or smart pump technology. In the austere environment both of these have respective limitations such as accuracy, weight, and need for power. The DripAssist™ device we investigated monitors drip rates by counting drops in the IV tubing drip chamber. It securely attaches to IV tubing, is small, weighs 3.8 oz., lasts 290 hours on a single AA battery, and will alarm for a +/- 13% change in rate from the set rate. We theorized this may provide a useful patient safety bridge in the austere, out-of-hospital, or battlefield patient care environments.

ReTweet if useful... Evaluation of the DripAssist™ device in out of hospital environments https://ctt.ec/hbzF4+ @ivteam #ivteam
Click To Tweet
To compared perceived ease of use in comparison to traditional roller clamp methods. We also explored perceived functionality for use in austere, out-of-hospital, battlefield or power outage environments.

Methods: The protocol was IRB approved, prospective, and designed as a pilot study. It involved 28 Madigan Army Medical Center Emergency Department personnel. Each participant was timed while setting three normal saline infusions at specific rates. Participants were then asked to fill out a survey.

Results: Most participants thought the DripAssist was easy to set up, understand and were confident in their ability to use it after limited training (4.8/5, 4.7/5, 4.7/5). Compared to IV infusion pumps participants thought it was slightly easier to use (3.7/5). In comparison to traditional roller clamps EMTs/paramedics and Army medics in the study found the device neither easier nor harder to use (3.1/5, 3.6/5) whereas nurses and physician assistants found it much easier to use (4.6/5, 4.8/5). Nurses and physician assistants were more likely to see potential for the device in out-of-hospital /austere environments (4.6/5, 4.8/5) than EMTs/paramedics and Army medics (3/5, 3.6/5). Average time to completion of the 83ml/hr, 125ml/hr and 250ml/hr drips were 68, 120, and 114 seconds respectively.

Conclusions: Our pilot study demonstrated that various levels of health care personnel thought that the DripAssist device was easy to use. Increased perceived accuracy, safety and applicability to austere/out-of-hospital/battlefield care was highest among nurses and physician assistants whereas EMTs, paramedics and Army medics had less positive perceived benefit. The DripAssist device may offer a safe, low-weight, functional tool through which to improve care in a variety of resource-limited environments.

Full Text
Reference:

DOI: http://dx.doi.org/10.1016/j.annemergmed.2017.07.156
Thank you to our partners for supporting IVTEAM