

Ultrasound-Guided Intravenous Lines



Research published in *Annals of Emergency Medicine* demonstrates the benefits of using ultrasound to give guidance to caregivers during intravenous (IV) line placement in children. Researchers from the Children's Hospital of Philadelphia (CHOP) identified the difficulty in accessing children's veins and found that using ultrasound as guidance improved first-attempt success rates.

Lead investigator, Alexandra M. Vinograd, MD, of CHOP, explains that inserting IV lines into paediatric patients can be quite challenging but often a vital requirement in the hospital setting.

In the study, 167 patients, who were identified as having challenging IV accessibility, were randomly given a traditional IV line or an ultrasound-guided IV line conducted by a team trained to place the IV on the first attempt. This cohort was then divided into groups based on age, one group for those aged 0 to 3 years old and another for those older than the age of 3.

The ultrasound-guided IV insertions were found to have an 85.4% first-time success rate compared to the 45.8% first-attempt success rate of the traditional IV line. The higher success rate of the ultrasound-guided IV was also the most favourable amongst parents.

Joseph J. Zorc, MD, senior author of the study, noted that the ultrasound-guided IV lines were able to stay in place for a longer period compared to the traditional IV, with no additional complications. Dr. Zorc hopes that the results from this study will be used to influence future guidelines for IV insertion in paediatrics.

The high successful first-attempt rates were also seen in both nurses and doctors and this success prompted a training programme for nurses in the CHOP emergency department for ultrasound-guided IV insertion. This method has now become the standard for patients with proven difficulties in IV-line insertion.

Source: [Children's Hospital of Philadelphia](#)

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