Background

- Multiple barriers to prehospital analgesia administration to children exist, including fear of dosing error and difficulty obtaining intravenous (IV) access.
- A field guide with customized dosing recommendations for IV and intranasal (IN) opioid delivery may improve treatment of pain in the prehospital setting.

Objective

- To evaluate the change in prehospital fentanyl administration to children after the introduction of the Handtevy™ field guide in our hospital-based EMS system.

Methods

- Design: quasi-experimental before-after study.
- Setting: Denver Paramedic Division, Denver, Colorado.
- Inclusion: trauma patients <14 years of age and transported by EMS.
- Study period: July 2014 – July 2016 (12 months before and 12 months after implementation of the Handtevy™ system).
- Data source: prehospital patient care data.
- Primary analysis: Comparison of difference in treatment proportions between the two time periods, with age and route of administration as subgroups.

Results

- 3,419 total patients.
- 1,649 patients pre Handtevy.
- 1,770 patients post Handtevy.
- Groups similar with regard to age, gender.
- Increase in the proportion of patients receiving pain medications (13% vs 18%, p<0.05).
- Patients were more likely to receive fentanyl in the 0-5 years of age group after the intervention (5% vs. 11%, p<0.05).
- 4 fold increase in IN fentanyl administration in 0-5 year of age.
- The intranasal route was more widely used in all ages 0-14.

Limitations

- Administrative data.
- Not adjusted for other potential confounders, including pain severity.

Conclusions

- The introduction of the Handtevy™ field guide with pre-calculated doses of fentanyl resulted in an overall increase in analgesia administration.
- Among age and route of administration subgroups there was a substantial increase in the provision of analgesia, including specifically in those <5 years of age.
- Patients were more likely to receive fentanyl IN in all ages.