



# Performance Measure: Pediatric Intranasal Fentanyl for Prehospital Pain Management

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August 2021

Evidence-Based Guideline for Prehospital Pain  
Management (693JJ92050003)

## **National Association of State EMS Officials**

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Submitted to NHTSA Office of EMS, August 12, 2021, in fulfillment of

Item 9. Condition 7. Submit Performance Measure

Cooperative Agreement No. 693JJ92050003

## **EMS Performance Measure: Pediatric Intranasal Fentanyl**

**Type:** Process Measure

**National Quality Strategy Domain:** Clinical Process – Effectiveness

**Measure Description:** Percentage of EMS responses originating from a 911 request for pediatric patients who received intranasal fentanyl for treatment of moderate to severe pain.

**Numerator Statement:** EMS responses originating from a 911 request for pediatric patients receiving intranasal fentanyl for pain management.

Pediatric patient includes patients between 1 and 14 years of age.

Moderate to severe pain is defined as a pain score of 6 or higher.

**Denominator Statement:** All EMS responses originating from a 911 request for pediatric patients with a pain score of 6 or higher who received some type of analgesia via parenteral route.

**Denominator Exclusions:** Respiratory distress, altered mental status (GCS less than 15), suspected TBI

**Supporting Evidence:** There is a strong recommendation for the use of IN fentanyl over opioids (IM or IV) for the treatment of moderate to severe pain in children in the prehospital environment when pain management is indicated prior to, or in the absence of, IV access. Furthermore, there is a conditional recommendation for either IN fentanyl or IV opioids once intravenous access is established. In some cases, IN fentanyl may be administered prior to obtaining IV access, while in other cases IN fentanyl may provide adequate analgesia alone, obviating the need for IV access. Existing research has established the safety and efficacy of intranasal administration of fentanyl in children. (Borland 2002, Setlur 2008, Saunders 2009, Murphy 2017) While the certainty of evidence is low due to the lack of randomized trials of sufficient sample size, the equity of efficacy when compared to intravenous opioids and the benefits of a rapid, non-invasive route of analgesia administration prompted a strong recommendation.

**Rationale:** Pain is common in children encountered by prehospital care, however, due to behavioral, social, and clinical differences, children infrequently receive prehospital pain management interventions.<sup>1-4</sup> (Samuel 2015, Rutowska 2015, Browne 2016, Browne 2016) Some EMS professionals may be hesitant to provide opioid analgesia to children in severe pain due to the fear and apprehension of children associated with insertion of an intravenous

catheter. Intranasal fentanyl is a rapid, non-invasive, and effective method of analgesia in children and should be prioritized in the prehospital setting.

Although the certainty of evidence was low, the benefits of a rapid, non-invasive route of analgesic administration prompted a strong recommendation.

**Measure Purpose:** Quality Improvement

**Type of Measure:** Process

**National Quality Strategy/Priority/CMS Measure Domain:** Clinical Process-Effectiveness

**CMS Meaningful Measure Domain:** Medication Management, Equity of Care, Patient-focused Episode of Care

**Level of Measurement:** Individual EMS Professional, EMS Agency

**Care Setting:** Prehospital

**Data Source:** Electronic Patient Care Record (ePCR) data, Paper medical record, Registry

\*Several pain management performance measures relating to assessment and treatment effectiveness have already been developed. These existing measures can be accessed at

<https://www.nemsqa.org/completed-quality-measures> and [www.ems.gov/pdfs/Studies-and-Reports](http://www.ems.gov/pdfs/Studies-and-Reports).

## References

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