

# **National EMS Quality Alliance**

## 2021 Trauma-03 Measure Package

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National EMS Quality Alliance

## Trauma-03: Effectiveness of Pain Management for Injured Patients

Trauma-03, an outcome measure, measures the effectiveness of pain management for injured patients who are transported by EMS. The published evidence supporting this measure is similar to that of Trauma-01, as EMS often treats patients with pain and there are many clinical indicators for pain management. The intent of this measure is to determine if pain is being reduced for EMS patients during the EMS encounter. However, for this measure, the TEP feels it is important to note that there are alternative pain management methods to the administration of drugs, and drug administration should be used judiciously. The true intent of this measure is to determine if EMS providers are helping their injured patients feel better, not if they are administering opioids to their patients.

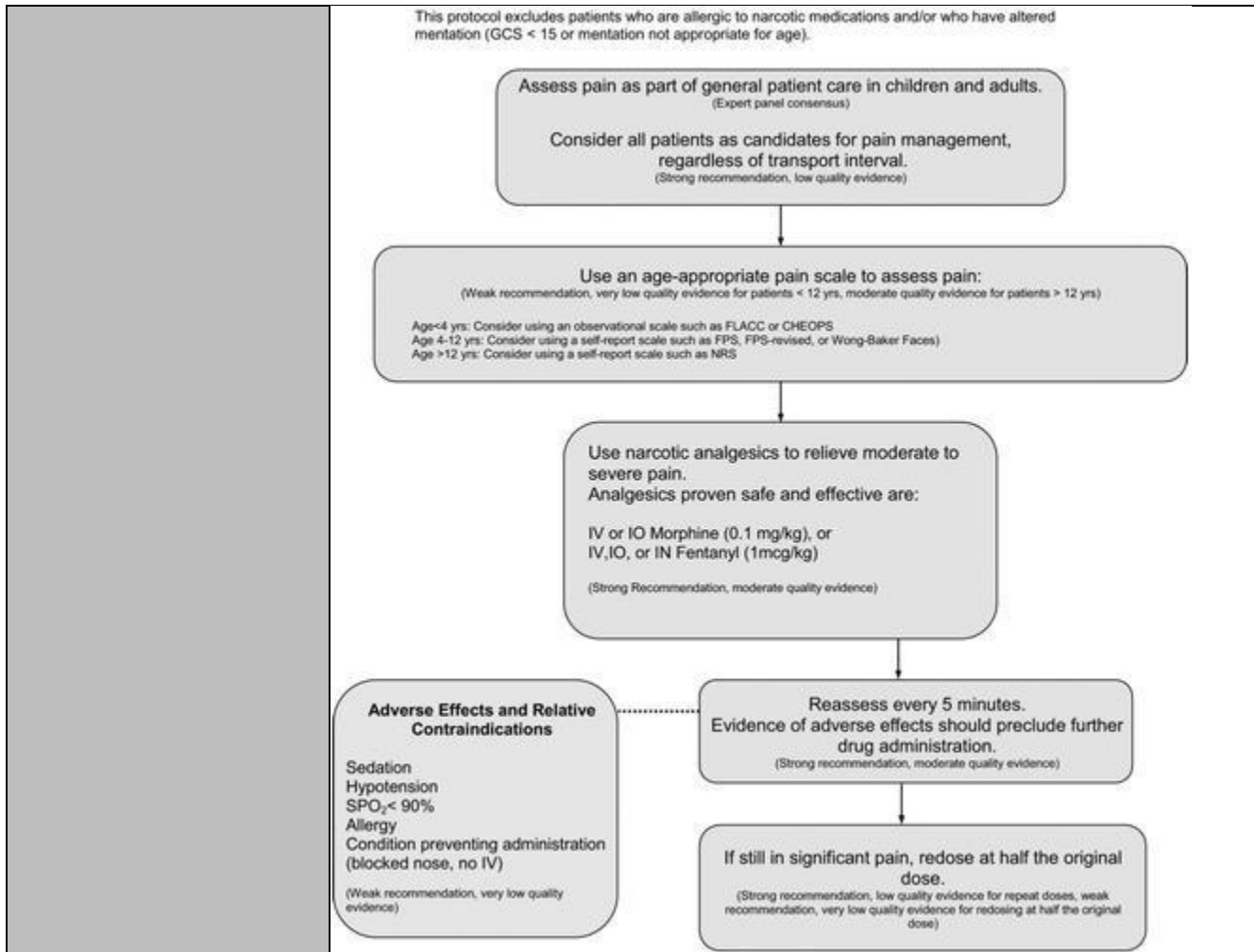
Similar to Trauma-01, the initial inclusion criteria for Trauma-03 was changed to EMS **transports** rather than EMS responses, to ensure the accurate initial population is being captured to protect the true intent of the measure – which is to measure how well EMS is helping injured patients who are in pain feel better. As for the threshold for the initial pain scale score, it remains at **greater than zero**. Much discussion took place among TEP members when it came to deciding upon this initial pain score value. However, in the end, the experts decided that the initial value should be any score greater than zero, because, again, the intent of the measure is to measure how well EMS is helping injured patients who are in pain feel better, not to measure the effectiveness of opioid administration or other medication-related outcomes.

While the intent of the numerator for Trauma-03 has not been changed, the language has been revised for clarity. The numerator for this measure includes EMS transports for patients with two or more documented pain scores and a final pain score value less than the first documented pain score. In order to determine if the clinical outcome for this measure has been met, a calculation must be completed.

## Trauma-03: Effectiveness of Pain Management for Injured Patients

**Measure Score Interpretation:** For this measure, a higher score indicates better quality

<b>Measure Description</b>	
Percentage of EMS transports originating from a 911 request for patients whose pain score was lowered during the EMS encounter.	
<b>Measure Components</b>	
<b>Initial Population</b>	All EMS transports originating from a 911 request for patients with injury and a Glasgow Coma Score (GCS) of 15 or an Alert Verbal Painful Unresponsive (AVPU) of A who had an initial pain score of greater than zero
<b>Denominator Statement</b>	<p><b>Population 1:</b> EMS transports in the initial population</p> <p><b>Population 2:</b> EMS transports in the initial population for patients greater than or equal to 18 years of age</p> <p><b>Population 3:</b> EMS transports in the initial population for patients less than 18 years of age</p>
<b>Denominator Exclusions</b>	None
<b>Denominator Exceptions</b>	None
<b>Numerator Statement</b>	<p><b>Numerator for Populations 1-3 (Calculate 3 Rates):</b></p> <p>EMS transports for patients with two or more documented pain scores and a final pain score value less than the first documented pain score</p>
<b>Supporting Guidance &amp; Other Evidence</b>	<p>The following evidence statement is quoted verbatim from the referenced clinical guideline:</p> <p>Evidence-Based Guideline for Prehospital Analgesia in Trauma:<sup>i</sup></p>



<b>Measure Importance</b>	
<b>Rationale</b>	<p>Pain is a common symptom in prehospital care. In a study conducted in 2007, it was found that among the patients who indicated they were in pain, 64% reported they were in intense to severe pain.<sup>ii</sup></p> <p>Pain control benefits patients in ways that go beyond making them comfortable. Proper identification and treatment of pain can prevent long- term consequences in very young children. As well, uncontrolled pain can also cause side effects such as elevations in heart rate and blood pressure that may be misinterpreted as other clinical conditions or may have consequences on existing disease processes.<sup>iii</sup></p>
<b>Measure Designation</b>	
<b>Measure purpose</b>	<ul style="list-style-type: none"> <li>• <input checked="" type="checkbox"/> Quality Improvement</li> <li>• <input type="checkbox"/> Accountability</li> <li>• <input type="checkbox"/> MOC</li> </ul>
<b>Type of measure</b>	<ul style="list-style-type: none"> <li>• <input checked="" type="checkbox"/> Process</li> <li>• <input type="checkbox"/> Outcome</li> <li>• <input type="checkbox"/> Structure</li> <li>• <input type="checkbox"/> Efficiency</li> </ul>

<b>National Quality Strategy/Priority/CMS Measure Domain</b>	<ul style="list-style-type: none"> <li>• <input type="checkbox"/> Clinical Process-Effectiveness</li> <li>• <input type="checkbox"/> Patient Safety</li> <li>• <input checked="" type="checkbox"/> Patient Experience</li> <li>• <input type="checkbox"/> Care Coordination</li> <li>• <input type="checkbox"/> Efficiency: Overuse</li> <li>• <input type="checkbox"/> Efficiency: Cost</li> <li>• <input type="checkbox"/> Population &amp; Community Health</li> </ul>
<b>CMS Meaningful Measure Domain</b>	<ul style="list-style-type: none"> <li>• <input type="checkbox"/> Medication Management</li> <li>• <input type="checkbox"/> Admissions and Readmissions to Hospitals</li> <li>• <input type="checkbox"/> Transfer of Health Information and Interoperability</li> <li>• <input type="checkbox"/> Preventative Care</li> <li>• <input type="checkbox"/> Management of Chronic Conditions</li> <li>• <input type="checkbox"/> Prevention, Treatment, and Management of Mental Health</li> <li>• <input type="checkbox"/> Prevention and Treatment of Opioid and Substance</li> <li>• <input type="checkbox"/> Risk Adjusted Mortality</li> <li>• <input type="checkbox"/> Equity of Care</li> <li>• <input type="checkbox"/> Community Engagement</li> <li>• <input type="checkbox"/> Appropriate Use of Healthcare</li> <li>• <input type="checkbox"/> Patient-focused Episode of Care</li> <li>• <input type="checkbox"/> Risk-Adjusted Total Cost of Care</li> <li>• <input type="checkbox"/> Healthcare-associated infections</li> <li>• <input type="checkbox"/> Preventable Healthcare Harm</li> <li>• <input type="checkbox"/> Care is Personalized and Aligned with Patient’s Goals</li> <li>• <input type="checkbox"/> End of Life Care according to Preferences</li> <li>• <input checked="" type="checkbox"/> Patient’s Experience of Care</li> <li>• <input type="checkbox"/> Patient Reported Functional Outcomes</li> </ul>
<b>Level of measurement</b>	<ul style="list-style-type: none"> <li>• <input checked="" type="checkbox"/> Individual EMS Professional</li> <li>• <input checked="" type="checkbox"/> EMS Agency</li> </ul>
<b>Care setting</b>	<ul style="list-style-type: none"> <li>• <input checked="" type="checkbox"/> Pre-Hospital Care</li> </ul>
<b>Data source</b>	<ul style="list-style-type: none"> <li>• <input checked="" type="checkbox"/> Electronic Patient Care Record (eCPR) data</li> <li>• <input type="checkbox"/> Administrative Data/Claims (inpatient, outpatient or multiple-source claims)</li> <li>• <input checked="" type="checkbox"/> Paper medical record/Chart abstracted</li> <li>• <input checked="" type="checkbox"/> Registry</li> </ul>

**NEMESIS Pseudocode: Trauma-03: Effectiveness of Pain Management for Injured Patients**

**Measure Score Interpretation:** For this measure, a higher score indicates better quality

Measure Description	
Percentage of EMS transports originating from a 911 request for patients whose pain score was lowered during the EMS encounter.	
Measure Components	
<b>Initial Population</b>	<p>(  (  <a href="#">eSituation.02 Possible Injury</a> is 9922005 ("Yes")  and <a href="#">first (eVitals.27 Pain Scale Score</a> where <a href="#">e.Vitals.01 Date/Time Vital Signs Taken</a> is not null sorted by <a href="#">eVitals.01 Date/Time Vital Signs Taken</a>) is greater than 0)  and  (  <a href="#">eResponse.05 Type of Service Requested</a> is in  (  2205001 ("Emergency Response (Primary Response Area)",  2205003 ("Emergency Response (Intercept)",  2205009 ("Emergency Response (Mutual Aid)"))  and  (  <a href="#">eDisposition.28 Patient Evaluation/Care</a> is 4228001 ("Patient Evaluated and Care Provided")  and <a href="#">eDisposition.30 Transport Disposition</a> is in  (  4230001 ("Transport by This EMS Unit (This Crew Only)",  4230003 ("Transport by This EMS Unit, with a Member of Another Crew"),  4230007 ("Transport by Another EMS Unit, with a Member of this Crew")))))))</p>
<b>Denominator</b>	<p><b>Population 1:</b>  Equals Initial Population</p> <p><b>Population 2:</b>  (  Initial Population  and  (  <a href="#">ePatient.15 Age</a> is greater than or equal to 18  and <a href="#">ePatient.16 Age Units</a> is 2516009 ("Years"))</p>

	<p><b>Population 3:</b></p> <p>(  Initial Population  and  (  <a href="#">ePatient.15 Age</a> is greater than or equal to 2  and <a href="#">ePatient.15 Age</a> is less than 18  and <a href="#">ePatient.16 Age Units</a> is 2516009 ("Years"))  or  (  <a href="#">ePatient.15 Age</a> is greater than or equal to 24  and <a href="#">ePatient.16 Age Units</a> is 2516007 ("Months"))))</p>
<p><b>Denominator Exclusions</b></p>	<p>None</p>
<p><b>Numerator Pseudocode</b></p>	<p><b>Numerator logic for Populations 1-3 (Calculate three separate rates)</b></p> <p>(  last (<a href="#">eVitals.27 Pain Scale Score</a> where <a href="#">e.Vitals.01 Date/Time Vital Signs Taken</a> is not null sorted by <a href="#">eVitals.01 Date/Time Vital Signs Taken</a>)  is less than  first (<a href="#">eVitals.27 Pain Scale Score</a> where <a href="#">e.Vitals.01 Date/Time Vital Signs Taken</a> is not null sorted by <a href="#">eVitals.01 Date/Time Vital Signs Taken</a>))</p>



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<sup>i</sup> Gausche-Hill, M., Brown, K.M., Oliver, Z.J., Sasson, C., Dayan, P.S., Eschmann, N.M., Weik, T.S., Lawner, B.J., Shani, R., Flack-Ytter, Y., Wright, J.L., Todd, K., Lang, E.S. (2014) An Evidence-based Guideline for Prehospital Analgesia in Trauma, *Prehospital Emergency Care*, 18:sup1, 25-34.

<sup>ii</sup> Galinski, M., Ruscev, M., Gonzalez, G., Kavas, J., Ameer, L., Biens, D., Lapostolle, F. & Adnet., F (2010) Prevalence and Management of Acute Pain in Prehospital Emergency Medicine, *Prehospital Emergency Care*, 14:3, 334-339.

<sup>iii</sup> Izsak, E., Moore, J.L., Stringfellow, K., Oswanski, M.F., Lindstrom, D.A., & Stombaugh, H.A., (2008) Prehospital Pain Assessment in Pediatric Trauma, *Prehospital Emergency Care*, 12:2, 182-186.