



# Northwest Community EMS System

Date: August 12, 2011  
To: All EMS MDs, ECRNs, and PARAMEDICS  
From: John M. Ortinau, MD, FACEP  
EMS Medical Director  
RE: **Fentanyl dosing clarification**

**System Memo: # 331**  
**Please post**

I have been asked by several educators to clarify Fentanyl dosing under the new SOPs. Just as a point of reference, this is the statement in the Changes and Rationale document that introduced the new protocols:

**Pain management: Fentanyl** initial dose doubled for stable adults (& peds > 2 yrs) to 1 mcg/kg (max 100 mcg) for the 1<sup>st</sup> dose. May repeat 0.5 mcg/kg (max 50 mcg) in 5 min. Total dose allowed per SOP (150 mcg). Additional doses require OLMC. May give 0.5 mcg/kg q. 5 min up to a total dose of 300 mcg. An additional 100 mcg will be added to EMS inventories. See drug profile and dosing chart in appendix. Doses for elderly and debilitated patients remain at 0.5 mcg/kg up to 100 mcg per SOP.

If the language that appears in the SOPs is open to question and interpretation, I am happy to affirm our intent.

I am concerned that we do not exceed acceptable weight based dosing limits even though max doses can go as high as 150 mcg per SOP in larger individuals.

**Therefore, to clarify the dosing of fentanyl:**

Stable children older than 2 years and adults who are not elderly and/or debilitated:

Calculate the loading dose at 1 mcg/kg, not to exceed 100 mcg, even if the patient weighs over 238 pounds. A repeat weight-based dose may be given of 0.5 mcg/kg (not to exceed 50 mcg).

The question focuses on a possible 3<sup>rd</sup> dose.

**There are 2 limitations to maximum dosing:** You cannot exceed a total weight-based dose of **2 mcg/kg** **AND** you cannot exceed a total dose of 150 mcg per SOP.

**Examples**

<p>Pt weighs 150 pounds:</p> <ul style="list-style-type: none"> <li>Initial dose (1 mcg/kg) = 60 mcg</li> <li>2<sup>nd</sup> dose (0.5 mcg/kg) = 30 mcg</li> <li>3<sup>rd</sup> dose (0.5 mcg/kg) = 30 mcg</li> <li>Pt has reached <u>2 mcg/kg</u> limit (even though total dose has not yet reached 150 mcg)</li> <li>Additional doses require OLMC.</li> </ul>	<p>Pt weighs 250 lbs:</p> <ul style="list-style-type: none"> <li>Initial dose (1 mcg/kg - max 100 mcg) = 100 mcg</li> <li>2<sup>nd</sup> dose (0.5 mcg/kg - max 50 mcg) = 50 mcg</li> <li>Pt has reached <u>150 mcg limit</u> per SOP (even though they have not reached 2 mcg/kg)</li> <li>Additional doses require OLMC.</li> </ul>
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Most of the time, unless there is prolonged extrication, there isn't enough time to give more than 2 doses allowing for a distribution time for the drug (if IV, or absorption time if IN), reassessment and repeat vitals after each dose. Some concern has been expressed that IN is not as effective as IV. If no barriers exist, IV administration will result in more rapid absorption/higher peak levels and is the preferred route if significant pain is present.