

## PARAMEDIC CRITICALLY APPRAISED TOPIC

**Title:** Dosage parameters for morphine

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**Clinical Scenario:** A 36 year old male patient is transported to the emergency department for assessment following a motorcycle crash. He receives 2.5mg morphine by attending paramedics for an angulated fracture of the right arm and is transported. At the hospital he receives 5 mg morphine after physician assessment.

### **PICO (Population- Intervention- Comparison- Outcome) Question:**

For musculoskeletal injuries is the common dosage of 2.5mg of morphine adequate to provide relief of pain and discomfort.

*P – msk injuries*

*I – dose of 2.5 mg morphine*

*C – higher dose morphine*

*O – reduction in pain*

*“In patients with msk injuries, does the standard dose of 2.5mg morphine versus a higher dosing regimen lead to faster reduction in pain? (secondary outcome: safety)”*

### **Search Strategy**

In PubMed prehospital analgesia and morphine

Search Outcome:

This search found 71 hits which yielded 12 papers.

Relevant papers

Author	Sample	Design	Outcomes	Results	Weakness
Boune, V. Charpentier, S. Henri, C. Cerfon, H. Bellard C. Ducasse, L	106 patients	Prospective, randomized, double-blind, controlled, parallel group study.	Patients receiving a higher initial dose found relief quicker than those getting the lower initial dosage.	Patients presenting with a pain score of 60/100 were given either 0.05mg/kg or 0.1mg/kg morphine.	Study design had single patients receiving more attention than would normally be given.
Bijur, P. Kenny, M. Gallagher, J	135 patients	Observational prospective cohort design.	0.1mg/kg dose may be too low to provide analgesia	80 patients reported less than 50% reduction in	Limited sample group. Some patients had more

				pain at 30 min and 16 reported no change in pain at 30min.	fluctuating episodic pain complaints
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Comments;

These studies highlight the need for reassessment of pain following initial analgesia. While most patient transports do not last more than 30 minutes, as in these studies, pain is infrequently reassessed in the prehospital environment.

Clinical Bottom Line:

While morphine is an effective analgesia and safe in the prehospital environment, reassessment of its effectiveness is required.

References:

Boune, V. Charpentier S. Charles-henri Houze-Cerfon, Bellard, C. Ducasse J. Is there an ideal morphine dose for prehospital treatment of severe acute pain? A randomized, Double-blind comparison of 2 doses. *Journal of Emergency Medicine* (2008) 26, 148-154.

Bijur, P. Kenny, M. Gallagher, J. Intravenous Morphine at 0.1 mg/kg is not effective for controlling severe acute pain in the majority of patients. *Annals of Emergency Medicine*. Vol 46, no 4: October 2005.