

## Paramedic – Evidence Based Medicine (P-EBP) Program

### Paramedic CAT (Critically Appraised Topic) Worksheet

**Title:** Safety and Usefulness of Prehospital Narcan Administration

**Report By:** Hannah Archbutt

**2<sup>nd</sup> Party Appraiser:** Jen Greene

**Clinical Scenario:** Paramedics arrive on scene to find a 50 y/o female unconscious on the ground. Bystanders on scene have no previous knowledge of the patient or her medical history. After ruling out trauma and hypoglycemia as possible causes, paramedics administer narcan to rule out an opiate overdose.

**PICO (Population – Intervention – Comparison – Outcome) Question:** In prehospital patients with an altered mental status of unknown origin, does the routine administration of narcan vs. no narcan have a diagnostic benefit without causing adverse effects?

**Search Strategy:** (Prehospital OR paramedic OR EMT or EMS OR ambulance) AND (unconscious Or “altered level of consciousness” OR overdose) AND (narcan OR Naloxone OR “opiate antagonist)

**Search Outcome:** 59

#### Relevant Papers:

Author, Date	Population: Sample characteristics	Design (LOE)	Outcomes	Results	strengths/ Weaknesses
D. Yealy, P. 1987	813 patients with a depressed level of consciousness.	Retrospective Qualitative Level III	To assess the safety of prehospital narcan administration.	1 patient seized, 2 vomitted, 1 patient got HTN, 2 patients got significant hypotension.	+ large sample + strict online Doctor oversight - no predetermined LOC scale used. - no control group
Jerome Hoffman, 1989	730 patients with an altered mental status	Retrospective, Qualitative Level III	1. Can clinical criteria predict response to narcan 2. Whether criteria can predict presence/absence of opiate overdose.	100% of patients that had an opiate overdose were identified by clinical criteria.	+ large sample - only reported complications that were easy to observe - no control group

**Comments:** In the first study, it does not indicate whether the patients that suffered adverse effects had in fact had an opiate OD as a cause for the altered mental status. In the second study, final patient diagnosis was made by a physician, not a toxicology confirmation.

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### **Consider:** *Why would you NOT change practice, based on this article?*

The routine administration of narcan is often considered a diagnostic option by medical practitioners as narcan is seen to be a 'safe' drug. The results of the first study seems to support this statement, as only six out of 813 patients experienced an adverse effect that could possibly be attributed to the administration of narcan. The diagnostic use of narcan, analyzed in the second study, is shown to be less effective than using three clinical criteria : presence of pinpoint pupils, respiration rate of less than 12, and/or history suggesting opiate use . The study shows that narcan administration could have been decreased by up to 75%, while still treating all patients that had experienced an opiate overdose.

**Clinical Bottom Line:** Although the prevalence of adverse effects were limited, the routine administration of narcan to patients with an altered mental status of unknown origin is not warranted as clinical predictors are just as effective at determining the presence of an opiate OD.

### **References:**

Jerome Hoffman, David Schriger, John Luo, (1990) The Empirical Use of Naloxone in Patients with Altered Mental Status: A reappraisal. *Ann Emerg Med*; 3: 246-52.

Donald Yealy, Paul Paris, Richard Kaplan, Michael Heller,. (1989) The Safety of Prehospital Naloxone Administration By Paramedics. *Ann Emerg Med*; 8:902-5.