Paramedic CAT (Critically Appraised Topic) Worksheet

Title: For moderate to severe asthmatic patients who receive steroids in the pre-hospital setting versus those administered steroids in the hospital setting, have a shorter overall hospital stay.

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Clinical Scenario: You are called to a home for a 40 year old Female patient with shortness of breath. You arrive to find the patient in a tripod position, obvious increased work of breathing noted, and speaking in 1-2 word sentences. Patient's husband states patient is a known asthmatic. Would giving this Patient a steroid decrease her possible hospital stay?

PICO (Population – Intervention – Comparison – Outcome) Question: Patients in moderate to severe asthma(P), Does the use of steroids early (I), versus hospital steroid use(C), affect patients overall stay in hospital(O).

Search Strategy: (Prehospital AND asthma AND steroids AND admission)

Search Outcome: This search yield 5 results, only one of which was relevant to this PICO question

Author /Date	Population: Sample characteristics	Design (LOE)	Outcomes	Results	Strengths	Weaknesses
Knapp B, Wood C.	1546 charts reviewed, all from one ambulance service area. 64 patients meet study criteria	Retrospective Historical Cohort (LOE II)	Compare Hospital Admission times	Patients were 3.375 times more likely to be admitted if not given methylprednisolone pre-hospital	Reviewed asthmatic Pts from one ambulance service. This Service went from not administering methylprednisolone to administering methylprednisolone. They looked over a one year period for each group.	Small sample size a total of 1546 charts reviewed with 64 patients meeting criteria, 31 were given methylprednisolone, and 33 were not.

Comments: This comparative retrospective study compared two different groups of asthmatic patients. One group treated with methylprednisolone pre-hospital and another group that was given methylprednisolone in the hospital. They found that patients were 3.375 times more likely to be admitted if not given methylprednisolone in the pre-hospital setting.

Consider: This was one particular city with a very select patient group. As methylprednisolone was given in later year by ambulance service, in hospital care for these patients might have advanced also which would lead to overall shorter in hospital times for these patients.

Clinical Bottom Line: Thinking about why steroids are good to be given early on in the emergency department setting, then same logic should apply to pre-hospital setting. Of course more research should be done before practice is changed.