

## Title: Role of a Pediatric Asthma Protocol in the Emergency Department

**Purpose:** Asthma exacerbations represent a potentially life-threatening situation for pediatric asthmatic patients and require early recognition and treatment. One of the potential barriers to early recognition of symptoms is the lack of consistent disease-severity score utilized between all treatment team members which may lead to a delay in steroid administration. A nursing-driven protocol was established to identify pediatric patients with asthma exacerbations, assign a disease state severity score (Modified Pulmonary Index Score), and expedite the administration of steroid medications. The purpose of this study was to compare the time to steroid medication administration pre-asthma protocol and post-asthma protocol as well as registration to disposition time.

**Design:** Single-center retrospective chart review

**Setting:** 78-bed Emergency Department in a Teaching Hospital

**Participants/Subjects:** Patients were compared pre-asthma protocol in April through June 2011 and post-asthma protocol in April through June 2012. Patients ages 2 to 18 were included in the evaluation if they had a stated history of asthma, a triage respiratory complaint, and received steroid therapy. Patients were excluded if they left without being seen or left before their treatment was completed.

**Methods:** Data collection included registration, triage, steroid administration, disposition times and status. Compliance with the asthma protocol was evaluated in the 2012 data set by noting documentation of the score and initiation of the asthma protocol.

**Results/Outcomes:** A total of 70 patients (pre-protocol) and 82 patients (post-protocol) were included in the analysis. The average time from triage to steroid administration pre-protocol was 90 minutes versus 56 minutes post-protocol. The average time from registration to disposition in 2011 was 211.9 minutes and 184.1 minutes in 2012. Post-protocol patients were further examined for compliance with the asthma protocol. Of the 82 patients in the group, no score was documented in 14 patients with an average steroid administration time of 81.9 minutes. A score was documented, but the protocol not initiated in 23 patients with an average steroid administration time of 66.7 minutes. The score was documented and protocol initiated in 45 patients resulting in an average time to steroid administration of 41.2 minutes.

**Implications:**

The average time from triage to steroid administration decreased by 34 minutes (37.8%) in all patients and resulted in a decrease from registration to disposition of 43.1 minutes (19%) in all patients. The initiation of the pediatric asthma protocol did impact time to steroid administration and time from registration to disposition. Greater awareness of the severity of pediatric asthma symptoms and the need for prompt evaluation and intervention was stressed in the education accompanying the protocol initiation. The decrease in time to steroid administration could be due not only to the protocol but to a greater nursing awareness. The introduction of the score may also have influenced the decrease in time to steroid administration as well as disposition. Early treatment is a key intervention in pediatric asthma exacerbations. Time to steroid administration and faster times to disposition can be obtained through the implementation of the pediatric asthma protocol.