

Changes in asthma treatment improve wait time and patient care in emergency

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Dr. Roger Zemek, Director of Emergency Research at the CHEO Research Institute and ED physician, and assistant professor in the Faculty of Medicine at the University of Ottawa, has overseen the creation and implementation of a Medical Directive that now empowers nurses to administer an oral steroid treatment, which has reduced wait time and improved patient care. This research is published today in *Pediatrics*.

Asthma is the most common chronic illness in children requiring a visit to Emergency. Every year, the Children's Hospital of Eastern Ontario (CHEO) sees more than 2,500 [patients](#) with [asthma](#). Two thirds of these [asthma patients](#) present with more than mild symptoms, meaning they have respiratory distress requiring increased levels of care, which may include requiring overnight admission to the hospital.

Traditionally, for patients presenting with asthma arriving at the Emergency Department (ED), the triage nursing staff would administer a relief medicine in a puffer or mask, to open the airways and ease breathing. Now, there is one more treatment option available on arrival in Emergency for children with moderate to severe asthma. This option empowers nurses to administer an oral [steroid treatment](#).

[Oral steroids](#) are routinely used in the treatment of moderate to severe asthma. "Before this Medical Directive for asthma treatment was initiated at CHEO, patients and their families would have to wait to see a physician before the oral steroid could be ordered and given," said

Debby Voskamp, nursing educator in CHEO's Emergency Department. "Because it often takes a few hours to see improvement in patients who receive oral steroid medication, it made sense to give this treatment early in the Emergency visit. We are pleased to be part of putting this research into practice and making positive change happen." The immediate impact on front line care has caught the eye of physicians, staff and hospital administrators alike.

CHEO's Emergency Department has 12 other Medical Directives in place now, but today's announcement is the first relating to administering steroids to treat asthma. This Medical Directive clearly documents the type of care children with asthma should receive, depending on how they score on a standardized assessment to determine the severity of their asthma performed by triage nurses when they arrive at the hospital. The assessment evaluates multiple factors including muscle exertion, wheezing and oxygen saturation.

"A critical part of this research included getting unanimous support from Pharmacy, Respiriology, nursing educators and all of the Emergency physicians before we could implement the Medical Directive," said Dr. Roger Zemek. "We worked closely with the CHEO Medical Directive Committee and Medical Advisory Committee to prove that this Medical Directive is a safe, effective and appropriate intervention. We wanted to take asthma care to the next level, by offering rescue treatments over breathing treatments. Our strategy is something that other hospitals can model."

The front line impact of this research put into practice is significant. A review of more than 600 patients' medical records revealed that admission rates of patients with moderate to severe asthma dropped by one third, and patients who received oral steroids upon arrival at the [emergency department](#) tended to leave the hospital on average 45 minutes sooner. In fact, there was a direct correlation between how soon

an oral steroid is administered and how soon patients gets better, as measured by their before and after scores on the standardized assessment.

Provided by Children's Hospital of Eastern Ontario Research Institute

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