Changing how we care for kids: Research in a pediatric ED

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Many years ago, before I would ever have dreamed that I would end up specializing in research within the emergency department (ED), I worked on a general medicine ward of a pediatric hospital. I received a call one night from a nurse working on a nearby surgical ward. Due to a shortage of beds, they had been required to accept an admission of an infant with croup who was not doing very well. The nurse asked if one of our nurses who was more experienced working with croup could come and look at this patient. I went over and sure enough the child was quite distressed. We called the physician responsible for that patient and, after examining the child, he wrote an order for IM dexamethasone. I had never heard of giving decadron for croup and questioned him about it. He replied that this was a new treatment and he had just read about some research that had been done which showed it was highly effective. We administered the medication and I was really impressed by the dramatic improvement in the child. When I think back, this was the first time I made a connection between research and how it changes the way we care for kids. Soon after that, I transferred to the ED where I became involved with research, working as a research assistant for several years, and then moving into my present role as the emergency medicine clinical research coordinator.

Over the past 10 years, the amount of research within our ED and certainly EDs all across Canada has escalated, bringing about many changes in practice. In our hospital, ED-based studies have looked at respiratory conditions such as asthma, croup and bronchiolitis. These studies are responsible for many changes in practice, including the use of inhaled budesonide and oral decadron in the treatment of croup (Klassen, Craig, Moher, Osmond, Pastercamp, Sutcliffe, Waters & Rowe, 1998) and the increased use of inhaled racemic epinephrine in infants with bronchiolitis (Menon, Sutcliffe & Klassen, 1995). Complex care of children with asthma in the ED has been significantly impacted and improved by research findings over the years (Sung, Osmond & Klassen, 1998; Plint, Osmond & Klassen, 2000). The suturing of lacerations in small children was often a traumatic event involving needles and painful freezing. Studies looking at the use of glue to replace sutures in face lacerations of children (Osmond, Quinn, Sutcliffe, Jarmuske & Klassen, 1999) have eliminated the need for sutures on simple facial lacerations. As a triage nurse, it is a great satisfaction to be able to tell an anxious child with a simple chin laceration, "We should be able to just glue that back together...no needles!"

Recently, a study examining the use of cool mist in the treatment of croup showed that it was not effective in resolving croup symptoms (Neto, Kentab, Klassen & Osmond, 2002). This particular study is a perfect example of the value of evidence-based practice. We always assumed that treating children with cool mist within the ED improved their croup symptoms despite the fact that there was no evidence to support this practice. This study resulted in the cessation of the use of mist sticks within our ED. While mist sticks are in no way invasive, they were time-consuming to set up and instruct families how to use and, generally, the child with croup who is already feeling anxious disliked having the cool mist blowing into their face.

This kind of care-altering research is continuing in our ED. Presently, there are a number of studies underway within our ED which, when completed, will provide evidence that will undoubtedly alter our treatments and improve the already great care we give to our patients with common ED ailments such as gastroenteritis, ottitis media, wrist fractures, and pain resulting from musculoskeletal injuries. It is an exciting time for emergency department-based research and it is great to see so many emergency department nurses becoming involved in research which changes how we care for kids!

References

Klassen, T., Craig, W., Moher, D., Osmond, M., Pastercamp, H., Sutcliffe, T., Waters, L., & Rowe, P. (1998). Nebulized budesonide and oral dexamethasone for the treatment of croup. **JAMA, 279**(20), 1629-1632.

Menon, K., Sutcliffe, T., & Klassen, T. (1995). A randomized trial comparing the efficacy of epinephrine with salbutamol in the treatment of acute bronchiolitis. **The Journal of Pediatrics, 126**(6), 1004-1007.

Neto, G., Kentab, O., Klassen, T., & Osmond, M. (2002). A randomized controlled trial of mist in the acute treatment of moderate croup (abstract). **Academic Emergency Medicine, 9**(5), 488.

Osmond, M., Quinn, J., Sutcliffe, T., Jarmuske, M., & Klassen, T. (1999). A randomized, clinical trial comparing butylcyanoacrylate with octylcyanocrylate in the management of selected pediatric facial lacerations. **Academic Emergency Medicine, 6**(3), 171-177.

Plint, A., Osmond, M., & Klassen, T. (2000). The efficacy of nebulized racemic epinephrine in the children with acute asthma: A randomized, double-blind trial. **Academic Emergency Medicine, 7**(10), 1097-1103.

Sung, L., Osmond, M., & Klassen, T. (1998). Randomized, controlled trial of inhaled budesonide as an adjunct to oral prednisone in acute asthma. **Academic Emergency Medicine, 5**(3), 209-213.