research@PEM

PAIN & GAIN
Tackling the opioid crisis in kids

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Opioid Management in Kids

In the past few years, the issue of opioid use (and misuse) has come under fire. With numerous cases of dependency, overdose and death, it has become not only a national epidemic, but also a global pandemic.

Many of the concerns of opioid mismanagement stems from adult usage. This can be seen in the new 2017 Canadian Guideline for Opioids for Chronic Non-Cancer Pain (which was developed here at McMaster University!). The issue of pediatric use and abuse is quite limited and needs to be further elucidated.

Specifically, the most common post-operative complaint in children is moderate to severe pain. This causes an increase in unnecessary and unplanned hospital admissions, and side-effects from untreated pain. There is also the issue of codeine overdose in children treated post-operatively as more than 80% of pain management post-operatively occurs at home under the supervision of the caregivers. As a result, a study by PEM physician at Western University, Dr. Naveen Poonai, aims to address this issue in post-operative pediatric orthopedic surgery patients.

In the October 2017 issue of the Canadian Medical Association Journal (CMAJ), Dr. Poonai’s team studied the difference between oral morphine versus ibuprofen in children 5-17 years who underwent minor outpatient orthopedic surgery (https://goo.gl/e9edX0). In a randomized superiority trial, patients took up to 8 doses of either drug every 6 hours as needed at home. Pain was the primary outcome, whereas secondary outcomes included adverse events, unplanned health care visits, or additional pain management. The Faces Pain Scale – Revised was used to measure pain (for the first dose, and then for doses 2 to 8). A total of 154 patients were randomized, 77 in each arm. The results showed that both interventions decreased pain scores with no significant difference between the two arms. What was significant however was that patients treated with morphine reported more adverse events (specifically drowsiness). The study concluded that since both morphine and ibuprofen decreased pain with no difference in efficacy, that ibuprofen is a better first-line option for patients needing post-operative pain managing who underwent minor surgery.

While the study is limited in the type of procedure(s) and that pain wasn’t completely eliminated in either treatment group, it does support the idea of alternative pain management that isn’t reliant on opioids.

On the topic of being on the cutting edge of pain management and research, McMaster PEM is partnering with Dr. Poonai on an upcoming RCT comparing the efficacy of intranasal ketamine on fracture reduction. We will keep you posted!

- Dr. April Kam (kama@mcmaster.ca)

Reference:

Evolve & Update

Pediatric Grand Rounds

REAP in International Child Health: Engagement in Research, Education, Advocacy and Policy

Numerous members of the Department are engaged in a variety of projects in low and middle income countries. These will be exemplified across the spectrum of REAP.

**DR. HASAN MERALI** is a new faculty member in the division of Pediatric Emergency Medicine. His research focuses on improving neonatal resuscitation in Uganda and Pakistan, and childhood injury prevention in Southeast Asia.

**DR. ANDREA HUNTER** has been involved as co-external program director for pediatric residency program in Guyana and in education programs in Uganda and Ethiopia, focusing on postgraduate training and curriculum as well as neonatal resuscitation.

**DR. JEFFREY PERNICA**'s research focuses on optimizing diagnosis and management of enteric and bloodstream infections in resource-limited settings in sub-Saharan Africa.

**DR. RONALD BARR**'s interests are in nutrition, essential medicines and health-related quality of life; all in children with cancer. His work focuses on low and middle income countries – especially Brazil, Guatemala and India.

**Thursday, November 2, 2017**
8:00am (sharp) – 9:00am
MDCL 3020

Contact: Giulia x73862
All faculty, staff and learners are welcome to attend
HELPING BABIES BREATHE (HBB)  
2nd Edition Master Trainer Course

A one-day intensive workshop for those who wish to facilitate the HBB Program abroad.

November 3, 2017  
Courtyard Marriott  
Hamilton, Ontario

For information:  
www.MCH-Simulation.eventbrite.ca

TO REGISTER - https://goo.gl/ovNQJB
Bronchiolitis: More Evidence, Fewer Interventions—Shifting Paradigms With Evidence-based Diagnostics

INTRODUCTION:
Young, nonverbal children presenting to the emergency department (ED) with nonspecific complaints pose a significant diagnostic challenge to the emergency physician (EP). Given the paucity of pediatric research and clinical decision rules (CDR) for many common conditions that present to the ED, this can lead to overinvestigation, which can have negative consequences for the patient and families. Traditionally, rigorous evidence requires derivation of a rule, testing and validating the rule in small contexts, and externally validating the CDR in multiple settings. This has been done successfully in various contexts, including the traumatic head injury rules in children and management of low-risk ankle fractures. In the era of Choosing Wisely, and the recognition that “more testing” does not equate to better care, it is important to have CDRs that can both minimize unnecessary testing and give a clinician confidence in ordering specific tests.

The American Academy of Pediatrics published evidence-based guidelines for the management of bronchiolitis in 2006 and updated them in 2015. One study examining the effect of the 2006 guidelines on the investigation and treatment of children with bronchiolitis noted a significant reduction in investigations (labs 35% vs. 29%, respiratory syncytial virus testing 61% vs. 41%, chest X-ray [CXR] 61% vs. 52%) and treatment (bronchodilator 65% vs. 58%, steroids 25% vs. 16%). Antibiotic administration rates were unchanged (34% vs. 33%). The study showed that although releasing national guidelines had an impact in decreasing unnecessary tests and interventions, there is room to improve. The guidelines do not provide an ED CDR or an algorithmic pathway that could aid EPs in their approach to a child with suspected bronchiolitis.

Continue reading the article by clicking HERE - or visit: https://goo.gl/Ar2ofK

Reference:
Eltorki, Mohamed, and Daniel Rosenfield. Bronchiolitis: More Evidence, Fewer Interventions—Shifting Paradigms With Evidence-Based Diagnostics. Academic Emergency Medicine, 12 Jan. 2017, onlinelibrary.wiley.com/doi/10.1111/acem.13109/full?null&urlVersion=0&rep=ON&重要举措Key=1fa54762-5f77-444e-9e5c-b325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a316d325a31
Research so far...

Video AOM

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carciur@mcmaster.ca
x 75821

PAGE #4545 if your patient:
- Between 6 - 59 months of age
- Primary diagnosis of non-severe AOM
- Eligible for watchful waiting prior to filling antibiotic prescription

Did your patient decline to participate or is ineligible?
- Please fill out the PINK REFUSAL TO PARTICIPATE form located near the ED physician space
- Required information includes: PATIENT LABEL, HOUSE-STAFF CONTACT and REASON FOR REFUSAL

Enrollment increased 4.5x since last month!

TOTAL
33 PATIENTS ENROLLED

33 MISSED (in October)
9 ENROLLED (in October)

Research Study: Let’s Initiate Safe Treatment for Ear Infections Now

Refusal to Participate Tracking Form: Emergency Department

<table>
<thead>
<tr>
<th>Patient Label or Name</th>
<th>Hospital Staff Name and Contact Info</th>
<th>Comments</th>
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<tr>
<td>PATIENT. JOHN Q.</td>
<td>Dr. Jane x77777</td>
<td>DECLINED OR INELIGIBLE</td>
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PAGE #4545 if your patient:

- Between 6 months - 10 years presenting with CAP:
- Fever (>37.5 C axillary, >37.7 C oral, >38 rectal) recorded in ED or home in the 48h prior to presentation
- Any one of: tachypnea on exam, cough on exam/history, increased work of breathing on exam, auscultatory findings consistent with pneumonia
- Infiltrates on CXR consistent with bacterial CAP as judged by ED physician
- Attending ED physician diagnoses the child with primary CAP

Was the RA unavailable?

- If the patient would like to hear more about the study but the RA/Volunteer is unavailable -
- Please fill out the GREEN RECRUITMENT TRACKING form
- Required information includes: PATIENT LABEL, CAREGIVER & HOUSE-STAFF CONTACT

Did your patient decline to participate or is ineligible?

- Please fill out the MANILA REFUSAL TO PARTICIPATE form
- Required information includes: PATIENT LABEL, HOUSE-STAFF CONTACT and REASON FOR REFUSAL
Research so far...

**QAPPE**

- **Primary objectives are:** Decreasing unnecessary appendectomies (negative appendectomies), Decreasing unnecessary abdominal U/S and or CT scans, Decreasing unnecessary hospital admissions for serial examinations
- **Secondary objective is:** Acting as a guide for other centers in resource allocation and referral patterns
- **Population:** Pediatric patients (0-18 years) presenting to the ED at MCH with abdominal pain and suspected appendicitis

**SQUEEZE**

**PAGE #4552 if your patient:**
- Between 29 days to < 18 years of age
- Persistent shock (abnormal perfusion OR low blood pressure OR on a vasoactive infusion like dopamine, epinephrine, or norepinephrine)
- Suspected or confirmed septic shock
- Has received 40 mL/kg of IV fluid (2L for children > or equal to 50 kgs)

*On-call hours: 4:30 pm to 8:30 AM, please dial x76443 to request page. Do not use 87 to send page during on-call hours. If SQUEEZE Trial pager unavailable page Dr. Melissa Parker #2073*
Volunteer Appreciation

MEET THE FACES OF PEMMREP!

LINDSAY
RAJ
LAURA
SHANNON
AHMAD
APRIL
NAVJOT
AARON
ELAINE
INNA
VEERAL
SHAYAN
Have something to say in the next newsletter?

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