



MACEP Pediatric Committee Newsletter

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Establishing a Pediatric Emergency Care Coordinator in 100% of Mass EDs- *UPDATE*

As discussed in our last newsletter ([August 2017](#)), The Pediatric Committee of the Massachusetts College of Emergency Physicians (MACEP) set the following goals:

- 1) Establish a physician and/or nursing Pediatric Emergency Care Coordinator (PECC) in 100% of Massachusetts EDs by the national ACEP meeting in October 2017**
- 2) Make it easy for ED leadership to establish this PECC role through web-based resources**
- 3) Use our success as a model for helping other states to expand establishment of PECCs in their EDs.**

We are delighted to report that although we have not yet succeeded at establishing PECCs in 100% of EDs, **we are currently at 89%, the highest percentage in the country** according to [EMNet data](#).

We have also established a website of robust resources for our new PECCs, available for all to use: www.MassPediatricToolkit.com. A list of all EDs in the state, along with their status as to having a PECC, can be found [here](#).

Our committee will continue to focus on this important effort for 2018, with the following goals:

- 1) Work to identify the few remaining EDs in the state that do not have an identified PECC, to get from 89% to 100%**
- 2) Provide additional leadership for helping to lead this effort. Dr. Ashley Foster, a residency trained EM physician who is currently a fellow at Boston Children's Hospital, will be taking a lead on this as the new Chair, PECC Network.**
- 2) Establish ongoing communication with the new network of PECCs. We will be focusing on providing support for this network in 3 specific areas:**

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An Emerging Concern: Teen Use of Vaping Devices

First introduced to the US market approximately 10 years ago and initially marketed as a tobacco cessation agent or a "safe alternative" to tobacco products, e-cigarettes and other devices used for "vaping" have gained popularity among youth and adolescents over the past 5 years. The most recent statewide Youth Risk Behavior Survey revealed that 24% of Massachusetts high school students reported current e-cigarette use and 50% had reported having tried the devices at least once. In comparison, less than 8% of high school students reported traditional combustible cigarette use. More Massachusetts high school students use e-cigarette or vaping devices than any other tobacco product. This should be concerning for all parents, educators and health care providers caring for children and young adults.

What is Vaping? Vaping is the act of inhaling a vapor produced by an electronic vaporizer or e-cigarette. These devices simulate the action and sensation of smoking without the use of tobacco, creating an aerosol by using a battery to heat up a liquid that typically contains nicotine, flavorings, and other additives. Some vaporizers can be used to deliver cannabinoids, other drugs, dry herbs and waxy concentrates. Multipurpose vaporizers allow users to vape different substances simply by switching cartridges. The vaporizers come in all different sizes and shapes, are easily hidden and are designed to mimic common objects. Typical devices look like an iPad stylus, thick pen,

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Websites to check out!

Every month we'll share some websites that may be of interest

Mass Pediatric Toolkit- Resources to improve pediatric care: [LINK](#)

EMS-C Pulse Newsletter: [LINK](#)

EMSC Resources/ Toolkit to improve pediatric readiness in your ED: [LINK](#)

EMS-C Webinars: [LINK](#)

National Pediatric Readiness Project: [LINK](#)

PEM Playbook (excellent and lively podcast on PEM topics): [LINK](#)

Upcoming Events

• **2018 SAEM Consensus Conference: Aligning the Pediatric Emergency Medicine Agenda to Reduce Health Outcome Gaps**, May 15, Indianapolis: [LINK](#)

• **MACEP Advanced Pain Management in the ED**, June 8-9, Waltham: [LINK](#)

• **ACEP Annual Meeting**, Oct 1-4, San Diego: [LINK](#)

• **AAP National Conference, Pediatric Emergency Section**, Nov 2-6, Orlando: [LINK](#)



Get Weights in KG!!

The MACEP pediatric committee is working with Massachusetts pediatric emergency care coordinators (PECCs) to achieve the goal of weighing and recording weight in kilograms for all pediatric patients who present to the Emergency Department. This recommendation is supported by the American Academy of Pediatrics (AAP), American College of Emergency Physicians (ACEP) and Emergency Nurses Association (ENA).

Why is this important?

The Institute of Medicine (IOM) identifies children as “uniquely vulnerable to medication errors.”¹ This is due to the fact that pediatric drug dosing is determined by patient weight in kilograms and thus it is imperative to have an accurate weight for a child. A 2009 analysis of 479 errors in weight-based medication dosing showed that over 25% of these errors were due to “confusion between pounds and kilograms, and that simply having the option to weigh in either unit contributed to wrong weight entries”.² Additionally, patient weights should be measured, recorded and displayed in a prominent place in electronic medical record in kilograms only.³ Knowledge of accurate weight and length may improve speed of needed or available resources during emergencies and or resuscitation.⁴ Additionally, parents may be more accurate than emergency nurses at estimating pediatric weights, but they still underestimate by 10% or more.⁵ **In conclusion, a way to prevent catastrophic drug-dosing error in ED is to weigh pediatric patients and weigh in kilograms!**

-Ashley Foster, MD, MA PECC Network Chair

1. Lenehan G. The Emergency Nurses Association (ENA) “Weighs in” on Pediatric Medication Safety: “Weigh Children in Kilograms Only!” *J Emerg Nurs.* 2012;38(3): 205-206. doi:10.1016/j.jen.2012.04.010.
2. Patient P, Advisory S. Medication Errors: Significance of Accurate Patient Weights. *Pennsylvania Patient Saf Advis.* 2009;6(1):10-15. [http://www.patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2009/mar6\(1\)/Pages/10.aspx](http://www.patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2009/mar6(1)/Pages/10.aspx).
3. Wyckoff S, Editor A. To reduce errors, ED staff should weigh patients in kilograms. 2017:2017.
4. Berg B, Arnone C, Cannon-Davis J, Foley A. Pediatric emergencies: Preparing at triage using height and weight. *J Emerg Nurs.* 2013;39(4):409-411. doi:10.1016/j.jen.2013.03.017.
5. Partridge RL, Abramo TJ, Haggarty KA, et al. Analysis of parental and nurse weight estimates of children in the pediatric emergency department. *Pediatr Emerg Care.* 2009;25(12):816-818. doi:10.1097/PEC.0b013e3181c32eb6.

The MOST IMPORTANT SAFETY INITIATIVE for CHILDREN

Hospitals should

WEIGH & RECORD children in KILOGRAMS

only 1 in 2 Hospitals Weigh and Record in Kilograms*

Not Weighing and Recording in KG can lead to Drug Dosing ERRORS!

Having a PEDIATRIC Emergency Care Coordinator is the single most important item that hospitals can implement to ensure pediatric readiness including patient safety.*

www.pediatricreadiness.org

* Gausche-Hill M, Ely M, Schmidt F, Tallord R, Rowick K, Edgerton E, Olson L. A National Assessment of Pediatric Readiness of Emergency. *JAMA Pediatrics.* Published online April 13, 2015. doi:10.1001/jamapediatrics.2015.138.

PRP National Pediatric Readiness Program

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1) To provide specific educational resources on a quarterly basis via e-mail. We will encourage PECCs to share these resources with other ED staff members. For the first quarter, we want to encourage all EDs to use **LET gel for laceration repair**, and to ensure it is being applied correctly. The 30 second training clip is [here](#). If your pharmacy is not already making LET gel, the formulary for it is [here](#).

2) To work with PECCs to create an equipment inventory checklist that should be reviewed at least quarterly. We are asking that PECCs review the list this quarter, and then work to ensure all equipment is available by end of year. The suggested list of equipment is available [here](#).

3) To start a quality improvement initiative in the ED. For the first quality initiative, we are aiming for all MA EDs to consistently weigh all children in kilograms by May 2018. Some EDs already do this – Great! For those EDs, we will work with the PECC on implementing an alternate project.

Our success provides a model for grassroots work to establish PECCs in *all* EDs nationwide. Almost all ED Directors in Massachusetts have identified a PECC at their hospital.

***If your ED has not identified a PECC yet*, please contact Dr. Emory Petrack at epetrack@tuftsmedicalcenter.org to learn about the free resources available to help your ED improve pediatric emergency care.**

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chargers or a small flask. Recent articles in NPR and the New York Times described a sleek flash drive design of one brand that was so discrete students could vape in classes.

The liquids, or e-juice, that are vaporized come in over 8,000 different flavors such as bubblegum, lemonade, marshmallow, coffee, cinnamon, and surveys demonstrate that the flavorings are the leading reason that youth are using e-cigarettes. There is often little odor associated with use of these devices, making it difficult to detect when an individual has been vaping: a problem for both parents and school administrators. In addition, there is no FDA regulation of these products: the e-liquids can be poorly or inconsistently labeled such that individuals may not know exactly what they are inhaling.

The use of vaping devices is perceived as less harmful than regular tobacco products. While some of the e-juice liquids are merely flavored, others contain nicotine. Users may not understand the health consequences. The effects of nicotine on the developing brain have been well studied: adolescents and young adults risk addiction, mood disorders and permanent lowering of impulse control. Tobacco use is still the number one cause of preventable death in the United States, and nine out of 10 smokers first tried cigarettes before the age of 18. Extensive public health efforts over the past decades have been successful in reducing tobacco use by adolescents. Unfortunately, recent studies indicate adolescents who try vaping products first are more likely to subsequently use combustible tobacco. Some evidence suggests that e-cigarette use is linked to alcohol use and other

substance abuse, such as marijuana.

In addition to nicotine, e-cigarettes may also contain other harmful chemicals such as propylene glycol, diacetyl, volatile organic compounds, and heavy metals. A recent study out of Johns Hopkins determined that a significant number of the devices generated aerosols with potentially unsafe levels of lead, chromium, manganese and nickel, which are toxic when inhaled. The heavy metals are thought to be leaching out of the heating coils in the devices. Chronic inhalation of these metals has been linked to cardiovascular, lung, liver, immune and brain damage. More research is needed to determine the long term effects of vaping on users and bystanders, but users risk exposing their respiratory systems to these potentially harmful chemicals.

E-cigarettes are nine times more popular among high school students than adults. While they are banned in multiple countries around the world, it is a 2.5 billion dollar business in the United States. The industry uses many of the same techniques that made traditional cigarettes such a popular consumer product. The flavorings appeal to children and adolescents. Products are cheaply priced and available at gas stations, corner stores, pharmacies and grocery stores - but are also readily available from on-line retailers. Buyers only need to click that they are over 18 in order to continue to purchase a product; no verification of age is required. Without additional education and regulation, the popularity of vaping will continue to rise and health care providers should be aware these devices pose multiple health risks to youth.

- Deb Greene, MD, Associate Chair, Emerson Hospital Emergency Department

Sources:

1. Massachusetts Youth Risk Behavior Survey, 2017, <http://www.doe.mass.edu/sfs/yrbs/>

