

EMSC Connects

Volume 4, Issue 10

October 2015

Emergency Medical Services for Children
Utah Bureau of EMS and Preparedness

Special points of interest:

- Hyperglycemia in the pediatric patient
- The struggles for children and teens with diabetes
- The Pause for healthcare workers
- The flu shot

Inside this issue:

Pedi Points	2
Expert Input	3
Protocols in Practice	3
Happenings	4
News From National	4
The Doc Spot	4
Calendar	5
Did You Know	6

A Word From Our Program Manager

Realizing our October newsletter would focus on children with diabetes, I wondered how they celebrated Halloween and explored the internet for information. I discovered they celebrate just like everyone else does but are probably more aware of eating candy in moderation. Well...isn't that a paradigm we should all embrace? I thought it was all about avoiding sweets but it's actually about managing carbohydrates. However, Americans purchase 600 million pounds of candy a year for Halloween and eat 1.2 pounds on the actual date. We consume 24 pounds of candy in a year! Yikes!

As I surfed the web, there were many good articles that provided Halloween tips for parents with children who have diabetes. I have compiled some of those tips and wanted to share them as they seem applicable to everyone:

- Give out candy your children don't like (and you too) so no one is tempted with the leftovers
- Have a good meal beforehand and healthy snacks available during trick-or-treating time
- Chocolate candy is better in a fun size rather than full size; but even some of those treats have more carbs than others
- Count carbs - read the labels on candy
- Create an exchange program or "store" - where children can trade candy for toys, money, movie night, extra TV minutes, video game time, stickers, books, glow in the dark spiders, fun straws, school supplies, popcorn
- Save hard sugar candy - for hypoglycemia

- Donate - Senior centers, hospitals, homeless shelters, troops overseas
- Moderation - no one should over indulge
- Mix it up- it's not all about candy- Spooky stories, movies, haunted houses, pumpkin carving/ painting, building scarecrows, bobbing for apples, face paint, host a party, play games, art projects, costumes, decorations, hayrides and healthy festive/fun food like ghoulish soup

When trick or treating keep all children safe. Sort through candy, have reflective clothing or glow sticks, be accompanied by adults, cross streets carefully and be aware of stranger danger. With these reminders and the tips above, kids can enjoy a safe and healthy Halloween.

Now, I am going back to surfing the world wide web for ideas on the next clever Halloween costume and festive food recipes. Enjoy! Be safe! And Thank You!

Jolene Whitney
jrwhitney@utah.gov



To submit or subscribe to this newsletter

Email: Dalrymple@utah.gov

Pedi Point

Tia Dalrymple RN, BSN

Type I Diabetes, What Is It?

Type 1 diabetes is a disorder that happens when a person's body can no longer make insulin. When teaching children about diabetes we explain that just as your house needs electricity to make it run, our cells need glucose (sugar) to make the cell function. The glucose enters our blood when we eat many types of food but it cannot enter the cell without a "key". Insulin is the key that opens the door of the body's cells so the glucose can get to the cells.

Insulin is produced in the pancreas and for some reason, in some people the pancreas stops doing this job. There are genetic, environmental, and even viral ties to the onset of Type I diabetes but there is no solid clue as to who will and will not be effected. Most parents do not expect their child to be diagnosed with this disease so often the early signs and symptoms are missed when it first presents.

Halloween is a good time to discuss this disorder. **Not** because eating lots of sugar causes diabetes (it doesn't) but because the increased sugar consumption around this time of year can increase the symptoms in a child with diabetes that has yet to be diagnosed. EMS may be called to a diabetic emergency, both new onset and well established patients are at greater risk for hyperglycemia and DKA when sugary snacks abound.

What is Diabetic Ketoacidosis (DKA)

When the child does not have enough insulin, glucose cannot enter the cell. Those cells signal the brain to find more glucose. First the child will eat (**hunger**), sugar levels in the blood will rise but the sugar is still unable to enter the cell. Next the child will break down fat (**weight loss**) and muscle (**muscle wasting**). Byproducts of these processes are acids and ketones, "poison" to the body. Their body is very smart though and it will try to rid itself of these poisons by peeing them out (**polyuria**) which makes the child thirsty (**polydipsia**). It will sweat them out (**dry skin**) and it will even try to breathe them out (**Kussmaul's breathing** and **fruity acetone breath**). Throughout this cycle the bloods sugar levels continue to rise (**hyperglycemia**) and without insulin, the poisons build up and lead to tissue swelling, metabolic imbalance and coma. Undiagnosed children often present with some symptoms of DKA, which prompts their parents to have them checked out. Prevention education has improved how quickly parents pick up on these symptoms, but we still see many sick children.

- In Utah during 2014, POLARIS reported 149 Primary Impressions of EMC calls related to diabetes in children 0-18yrs of age.
- EMS transports of the diabetic pediatric patient are frequent.
- About 208,000 Americans under age 20 are estimated to have diagnosed diabetes, approximately 0.25% of that population.
- In 2008—2009, the annual incidence of diagnosed diabetes in youth was estimated at 8,436 with type 1 diabetes, 5,089 with type 2 diabetes (with childhood obesity increasing, we are seeing an increase in this type of diabetes).

The Call

You receive a call for an 8-year-old with altered mental status at her classroom. When you arrive you find the child sitting in a chair, not making eye contact and not responding appropriately to questions. Her teacher is unaware of any medical conditions but that she was out with flu symptoms yesterday. Vital signs are normal. Your partner obtains a blood glucose and the reading is HHH.



⚡ = Glucose

🔑 = Insulin

“increased sugar consumption around this time of year can increase the symptoms in a child with diabetes that has yet to be diagnosed”



what comes next?

Expert Input
 Nancy Mecham, APRN, FNP
 From Utah EMSC Off-line Protocols

Hyperglycemia: A condition where blood glucose levels rise excessively

Those at risk: children with new onset diabetes, commonly seen in critically ill children as a result of a relative insulin-resistant state induced from high levels of catecholamines and hydrocortisone

Signs and symptoms

Hyperglycemia may lead to potential hypovolemia (increased serum osmolality and	Increased respiratory effort (from acidotic state)
Increased thirst and urination	Abdominal pain, nausea and vomiting
Fatigue	Other signs of dehydration or decreased perfusion



Living with and managing diabetes every day can be a struggle. Children and teens are commonly concerned about...

- feeling like they are a burden on the family
- being treated differently or delicately, as if they are 'sick'
- coping with constant parental questions about their diet, how they are feeling and whether or not they have taken their insulin
- getting extra attention from parents or peers.

It's normal for children or adolescents to feel sad, angry and fed up with their diabetes at times. After all, diabetes is a lifelong condition, so the tasks and skills needed to manage it must be continued over a lifetime.

This [site](#) has some great tips for helping kids cope with different challenges.

If children struggle with their diabetes management due to feeling depressed, anxious or overwhelmed, it is important to seek help from your diabetes healthcare team.

Protocols in Practice

Hyperglycemia

BLS	<ol style="list-style-type: none"> 1. Refer to General Pediatric Assessment Guidelines 2. Maintain airway, offer 100% oxygen via NRB <ol style="list-style-type: none"> A. If respirations are ineffective, begin BVM 3. Check blood glucose (if <60mg/dl) see Hypoglycemia protocol 4. Contact medical control for glucose >500 mg/dl 5. Transport for medical evaluation
ALS	<ol style="list-style-type: none"> 1. Follow BLS procedures 2. Place patient on cardio-respiratory monitor and continuous pulse oximetry 3. Establish IV/IO 4. For patient with high blood glucose (>300) and signs of decreased perfusion, begin an IV/IO bolus of 20ml/kg NS 5. Transport for medical evaluation
Key Points	<ol style="list-style-type: none"> 1. Hyperglycemia can result from an inadequate supply of insulin (Type I Diabetes) or the body's resistance to circulating insulin (Type II Diabetes). 2. As the body uses other sources of fuel for metabolism, ketones, and acid production occurs. This results in an acidotic state.

Happenings

It is unfortunate but at hospitals, death is an everyday occurrence and medical workers must quickly learn to deal with it. EMS providers often hand a patient off only to find that they have died after an unsuccessful resuscitation. Often healthcare workers do not allow themselves to process this profound occurrence. There is a grassroots initiative called "[The Pause](#)," that started at the University of Virginia Medical Center two years ago and is now slowly being adopted by hospitals all over the country.

"This practice removes the impotence that colors loss in health care. It empowers each individual to offer support without imposing beliefs on others. It is both communal and individual, and it allows for secular, religious, and humanistic perspectives. It is simplicity infused with complexity. We are called to bear witness to the reality of loss and the acceptance of reality."

-Jonathan B. Bartels Rn, BSN



"at hospitals, death is an everyday occurrence and medical workers must quickly learn to deal with it...Often healthcare workers do not allow themselves to process this profound occurrence."

News From National

Save the Date: EMSC Webinar on Preparing the ED to Provide Psychosocial Support to Children and Families in A Disaster

From 3:00 pm to 4:00 pm (Eastern) on Thursday, October 29, 2015, the EMSC Program will host the webinar [National Pediatric Readiness Project: Preparing the Emergency Department to Provide Psychosocial Support to Children and Families in a Disaster](#).

The content for this webinar is appropriate for emergency department (ED) directors, ED physicians and nurses, hospital administrators, state EMSC Program managers, EMS providers, state health department and hospital regulators, health care planners, family members, trauma program coordinators and managers, and others interested in improving pediatric emergency care. All attendees will need to pre-register for the event beginning in mid-October. Once registered, an automated email message will provide registrants with call in/log in information. Continuing education through the Indian Health Service Clinical Support Center is being sought for physicians and nurses who attend the live presentation only.

The Doc Spot

[From Getting to Know the Flu Shot](#) by Donna Barhorst MD

- About 100 children in the U.S. die every year of complications of Influenza. Children under a year of age at the highest risk.
- 20,000 children younger than five years old are hospitalized every year due to complications of Influenza.



- Other common complications include secondary ear and sinus infections, bacterial pneumonia, dehydration, and worsening of chronic medical conditions such as asthma and diabetes.
- School aged children may have to stay home from school for up to seven days with fever and lethargy.

For more information on the flu vaccine and locations of where to get vaccinated, visit www.immunize-utah.org.

October 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 Issues in Pediatric Care Conference → PGR	2	3
4	5	6	7	8 PGR	9	10
11	12 Columbus Day	13	14	15 TGR/PGR	16	17
18	19	20	21	22 PGR	23 ABLS Course	24
25	26	27	28	29 PGR	30	31 

Pediatric Education Around the State

Pediatric Grand Rounds (PGR) are educational offerings webcast weekly (Sept-May) watch for it's return in September and remember you can access archived presentations Visit www.primarychildrens.org/grandrounds for more information.

Trauma Grand Rounds (TGR) This free offering alternates with EMS Grand Rounds every other month, it is geared towards hospital personnel.

October 15 7am-8am Thomas Higgins, M.D. – *Opiate Use Post-Traumatic Injury*

There are 3 ways to participate

- Attend in person.
- Attend live via the internet at : <http://utn.org/live/trauma/> To receive CME for viewing via live stream, please send an email with your name and the presentation you viewed to janet.cortez@hsc.utah.edu. A CME certificate will be emailed to you within two weeks.
- View the archived presentation two weeks after the live date at www.healthcare.utah.edu/trauma

See the upcoming schedule attached to our newsletter email

Upcoming Peds Classes, 2015

For PEPP and PALS classes throughout the state contact Andy Ostler Aostler@utah.gov

For PALS and ENPC classes in Filmore, Delta and MVH contact Kris Shields at shields57@gmail.com

October 23 -- ABLs course -- SLC Utah Contact Annette.matherly@hsc.utah.edu

Save the Date

October 1-2nd [Issues in Pediatric Care 2015](#)

November 20th Advanced Neurologic Conference, Protecting the Developing Brain contact jamie.nordberg@imail.org

April 13-14, 2016 [Zero Fatalities Safety Summit](#)



Emergency Medical Services for Children

Utah Department of Health
Emergency Medical Services and Preparedness
Emergency Medical Services for Children
3760 S. Highland Drive, Room 545
Salt Lake City, UT 84106
Phone: 801-707-3763
Fax: 801-273-4165
E-mail: Dalrymple@utah.gov
Salt Lake City, UT 84114-2004



Follow us on the web
<http://health.utah.gov/ems/emsc/>
and on Twitter: EMSCUtah

The Emergency Medical Services for Children (EMSC) Program aims to ensure that emergency medical care for the ill and injured child or adolescent is well integrated into an emergency medical service system. We work to ensure that the system is backed by optimal resources and that the entire spectrum of emergency services (prevention, acute care, and rehabilitation) is provided to children and adolescents, no matter where they live, attend school or travel.



Did You Know?

CDC Releases Toolkit on Safe Driving in Tribal Communities

The Centers for Disease Control and Prevention (CDC) released a [toolkit](#) on safe driving in Tribal communities. The toolkit features proven strategies to reduce drinking and driving and increase the use of car seats to reduce crash-related injuries and death in Tribal Nations.

