

EMSC Connects

VOLUME 6, ISSUE 8

August 2017

**Emergency Medical Services for Children
Utah Bureau of EMS and Preparedness**

A Word From Our Program Manager

Special points of interest:

- *Pediatric Resources*
- *The data, pediatrics in Utah*
- *Pediatric assessment*
- *Pediatric vital signs*
- *General tips*

“Summer time and the livin’ is easy.” I hope you are having a wonderful summer with family reunions, vacations, outdoor activities, festivals, BBQs and concerts. It has been a hot and dry one in Utah so far. We need to find ways to cool off, either water sports, head for the mountains littered in wildflowers or staycations within some of Utah’s indoor events.



Recently, the Utah Bureau of EMS and Preparedness conducted an indoor event for the 2017 EMS Awards ceremony. It was held at the Loveland Aquarium in Salt Lake City. This is a very nice place to keep cool and have fun. One of our long standing and distinguished EMSC county coordinators was recognized for his efforts as this year’s recipient for the EMS for Children award.

Von Johnson is a Paramedic with Uintah Basin Medical Clinic has been an EMS for Children County Coordinator for many years. Von has been an instrumental leader to the Pediatric Education for Prehospital Professionals (PEPP) education to Duchesne County and for surrounding counties.

In his position with Uintah Basin Medical Center and the county ambulance service, he

has taught EMT, Advanced EMT and Paramedic courses, as well as, PEPP, Pediatric Advanced Life Support (PALS) and Advanced Cardiac Life Support (ACLS). He has spent countless hours creating training opportunities in the state and is always ready to assist with PEPP and PALS courses with other coordinators. Von also serves on several committees and state subcommittees that direct and sustain the EMS community.

Von has served as an EMSC “recruiter” and encouraged others to serve the children of our state. He recruited other county EMSC coordinators including his own daughter. He has worked closely with Uintah county coordinators and serves as a mentor.

As a skilled paramedic, teacher, trainer, and an EMSC

coordinator, Von leads by example. Over the years, he has blessed the lives of associates and saved the lives of Utah children. He looks for opportunities to share his knowledge and understanding with others and is an excellent pediatric educator and an advocate for children everywhere. For his skills and abilities as a paramedic and his dedication to the EMS for Children program mission and goals, and his service to the community, Von Johnson was honored as Utah’s 2017 EMS for Children’s Coordinator of the Year. Thank you Von for your service and dedication.

It is so difficult to only recognize one person a year, when so many are deserving because of their continued service, dedication and commitment. Please know your efforts and support are greatly

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Pedi Points

Tia Dickson RN BSN PCH Emergency Department Trauma Charge Nurse

As a pediatric nurse with more than 2 decades of experience I have picked up a few pediatric tricks and tips. EMS for Children (EMSC) has given me the opportunity to travel the state and I've also been able to pickup tips from others. In my travel and teaching I am frequently asked to share these. What better way than dedicating a newsletter to the topic.

Did you Know?

Utah has many resources for good pediatric tips, tricks and evidence-based protocols

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 do this by making it easy for the EMT provider to access good information on how to care for kids. Here are several ways we do this...

- **The newsletter** you are reading right now, [EMSC Connects](#) comes out monthly and is full of great reviews on the care of children with a variety of diagnosis. The newsletters are archived on the website and are free to use, copy and share.

"WE MAKE IT EASY FOR THE EMT PROVIDER TO ACCESS GOOD INFORMATION ON HOW TO CARE FOR KIDS"

- The EMSC program is made of up **County Coordinators**. These volunteers live and work with you and they are given extra pediatric training throughout the year. They are a great resource for questions and in-house training. Contact our Lead Coordinator [Andy Ostler](#) to find out who your nearest Coordinators are.
- **The Nurse Clinical Consultant** for EMSC works in the ER at Primary Children's Hospital (PCH) and is able to access all of their extensive resources. You need only ask, tdickson@utah.gov. PCH partners with EMSC because they understand the responsibility as the only Children's Hospital in the state to get evidence-based practice information out to all those that care for children.
- **Utah State EMS Protocol Guidelines** were developed for the Utah Bureau of EMS and Preparedness by a panel of physicians, EMS medical directors, pediatric emergency medicine specialists, paramedics, and EMTs in order to provide EMS agencies with a set of up-to-date treatment guidelines and standing orders. These guidelines were developed utilizing current best medical evidence and the expert consensus of the development panel. They incorporated information from the National Model EMS Clinical Guidelines (www.nasemso.org), feedback from the State EMS Committee, the Trauma Systems Advisory Committee, and multiple EMS medical directors and EMS providers from around the state. They are highlighted in EMSC Connects and include a pediatric pathway in each guideline.

The Data Reveals

Yukiko Yukiko Yoneoka, MS Specialty Care Data Analyst. Bureau of EMS and Preparedness, UDOH

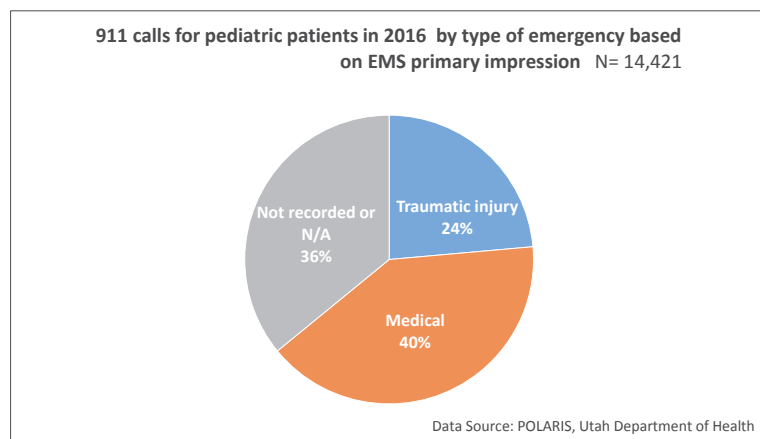
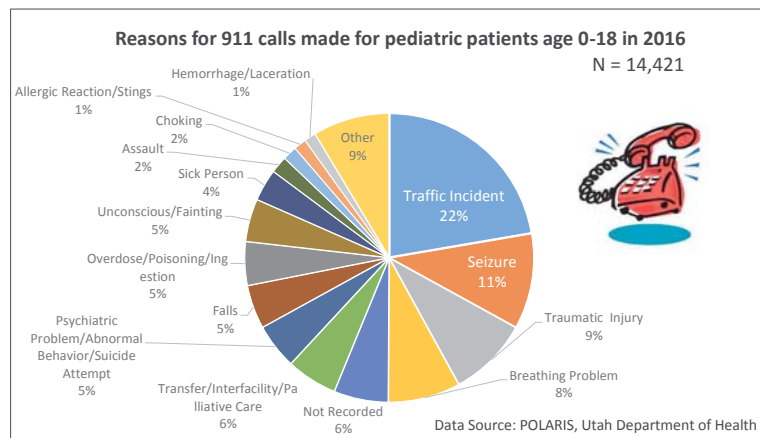
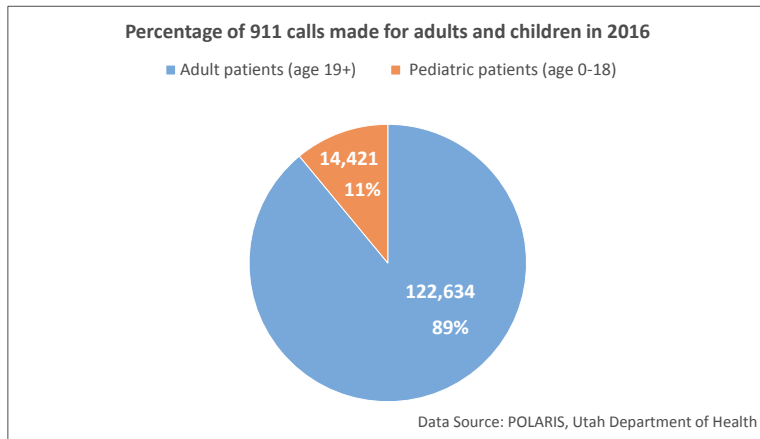
To give you an understanding of what type of pediatric calls EMS providers respond to in Utah we have collected data from POLARIS.

- The first chart shows percentages of 911 calls for adult patients (89%) vs. pediatric patients (11%).
- The second one shows the reasons for pediatric 911 calls based on dispatch complaints.
- The third one is the percentage of traumatic injury emergency vs. medical emergency.



Emergency Medical Services for Children

Overall proportion seems to be reasonable based on the dispatch complaint, but 36% EMS primary impression icd_9 codes were not filled out and that really clouds the result. We have intentionally included the percentage of "not recorded/applicable" in the pie chart. Please remember to fill out all the fields in filling out your reports. Excluded were all the runs that were cancelled or with patients not found.



Protocols in Practice
Pediatric Assessment

PEDIATRIC ASSESSMENT

ALL PROVIDERS / EMT

- The pediatric assessment should be modified for the developmental level of each patient
- Continuous cardiac, ETCO₂, and pulse oximetry monitoring, when available
- Treatment Plan** (develop and implement plan based on assessment f
 - Use the Pediatric Assessment Triangle (defined by the AAP) to form a general impression of the child.



- o **Appearance:** Evaluate tone, interactiveness, consolability, gaze, and speech or cry
- o **Breathing:** Evaluate abnormal airway sounds, abnormal positioning, retractions, and nasal flaring.
- o **Circulation/Skin Color:** Evaluate for pallor, mottling, delayed capillary refill and cyanosis

- If the patient looks ill and has poor perfusion, start CPR when the heart rate is less than:
 - o 80bpm for infants (up to 1 year of age)
 - o 60bpm for children (1 year to 8 years)
- Look on scene for the CHIRP red bag. It contains current medical information on the child with special healthcare needs.
- Perform the pediatric assessment with guidance from the **Family Centered Care Guideline**.
- Pay careful attention to the wide variety of normal vital signs. Do not assume that the pediatric patient is fine when they have vitals meeting the normal adult parameters.

Normal Pediatric Vital Signs

Age of Patient	HR		RR		Systolic BP	Temp	
0 days - < 1 mo	<80	>205	<30	>60	<60	<36	>38
> 1mo - < 3 mos	<80	>205	<30	>60	<70	<36	>38
> 3 mos - < 1 yr	<75	>190	<30	>60	<70	<36	>38.5
> 1 yr - < 2 yrs	<75	>190	<24	>40	<70+ (age x 2)	<36	>38.5
> 2 yrs - < 4 yrs	<60	>140	<24	>40	<70+ (age x 2)	<36	>38.5
> 4 yrs - < 6 yrs	<60	>140	<22	>34	<70+ (age x 2)	<36	>38.5
> 6 yrs - < 10 yrs	<60	>140	<18	>30	<70+ (age x 2)	<36	>38.5
> 10 yrs - < 13 yrs	<60	>100	<18	>30	<90	<36	>38.5
> 13 yrs - < 18 yrs	<60	>100	<12	>16	<90	<36	>38.5

- Key Considerations**
 - Obtaining a full set of vital signs, **including blood pressures**, should be a priority.
 - Parents are often the best resource for a baseline understanding of their child, especially in the case of the child with special healthcare needs.

ADULT

PEDIATRIC (<15 years of Age)
 NOTE: Pediatric weight based dosing should not exceed Adult dosing.

AEMT
 PARAMEDIC

AEMT
 PARAMEDIC

Emergency Medical Services for Children

Taking Vital Signs in Kids

RR



Respiratory Rate is the first vital sign you should take, even before touching the child. Of the two children on the left, which can you visualize enough to count a breathing rate? Have the parent undress the child so you can see that belly rise. Count for 10 sec and multiply by 6. Babies and older kids may tolerate your hand on their belly to make this easier but the toddlers are not usually fans of this technique.

HR

Distraction and play are the key when taking a heart rate. You have to put your hands on the child and most don't like it. Make sure they are safely encircled in a loved ones arms. Even if they are on a backboard, mom can wrap her arms around them briefly. Preschool aged kids love to hear "Do you have a strong heart, can I listen to it?" The toddlers love distractors like toys on the stethoscope or a flash light. Unlike adults where the goal is to auscultate for 60 sec, the 10 sec rule usually does the job in kids.



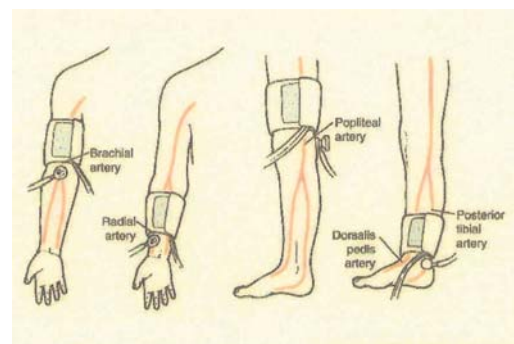
Temp



If taking a under-the-arm temp, put the parent to work in the position shown at the left. The ear thermometer is usually quick but sometimes the child will fight it. Having the parent stabilize the head is your best option.

BP

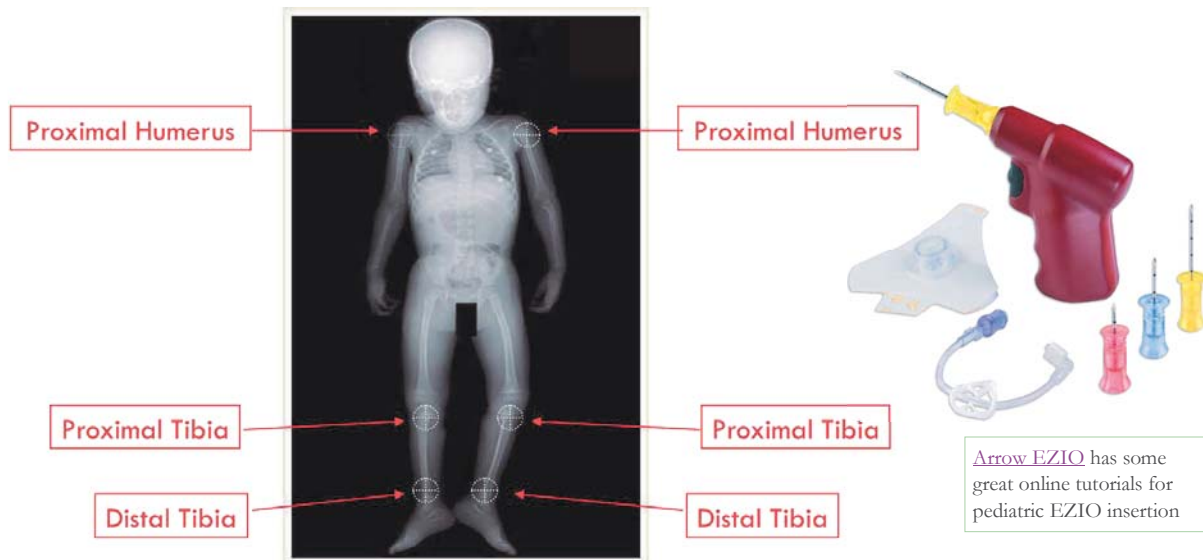
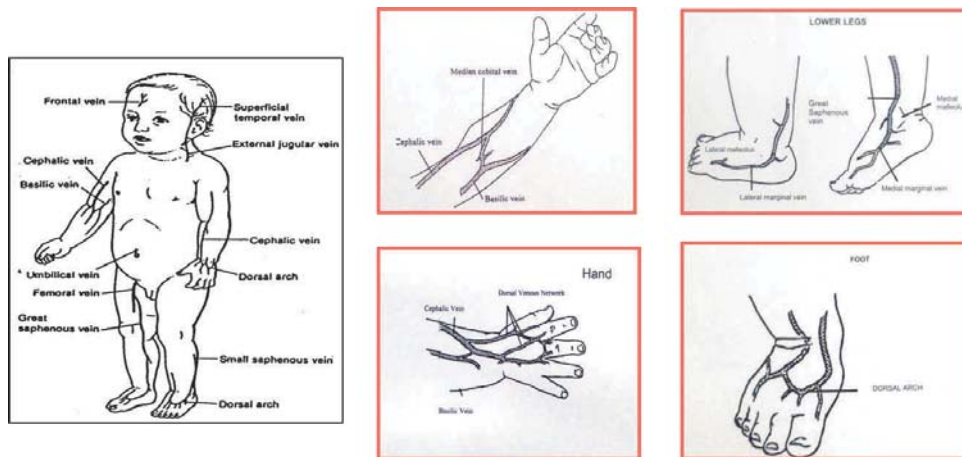
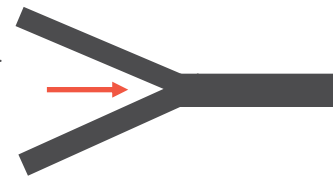
Explain a blood pressure to the child in their terms. I like to use, "this cuff wants to give you a tight hug, if you're still like a statue it will hug faster". The arm is not your only option (see pic). Toddlers and baby tolerate the calf best and it's less mobile. Place the cuff on but don't immediately pump it up. Give the child a chance to calm down, move away so they feel safe and then push the button. You will get a better result. Manual BPs should be done if the automatic result was abnormal. **Palpated BPs work great when the kid is screaming and you can't hear the pulse on scene or on the rig.**



Emergency Medical Services for Children

Starting IVs on Children

- A large bore more central Peripheral Intravenous (PIV) line is best, but we will take what we can get and a 24G works. In young children antecubital veins are underdeveloped and covered in baby fat. Go for the vein you can see. The top of the hand or side of the foot are usually visible and those veins are easy to apply traction to.
- Limit your attempts to the person with the most experience and give no one more than 2 chances. Don't blow all the veins. If the child is stable, wait until your destination. If they are not an Intraosseous (IO) is a great option.
- Double tape for transport. If the child can, they will pull out their IV. Double tape and secure.
- Use your bifurcations. In an adult we avoid bifurcations because valves can make the IV hard to thread. Young children don't have valves yet and bifurcations give you a larger area to hit the vein. See the red arrow.
- Remember babies have thick skin. Chose a site near the vein but not on top of it and start shallow.
- The preferred site for IO is the Proximal Tibia, there are other approved pediatric sites for the EZIO but extra training is required and those sites should only be used under medical direction
- Starting an IV in a child is always a 2 person job, a great holder is your key to success. Your holder should control the extremity, you should control the hand/foot/site. Let parents hug and hold the body. The child will find this more comforting than tying them down in a papoose or sheet.



Arrow EZIO has some great online tutorials for pediatric EZIO insertion

Pedi Points –continued

Tia Dickson RN BSN PCH Emergency Department Trauma Charge Nurse

Random Pediatric Tips and Tricks

- When delivering a nebulized medication, dim the room or ambulance lights. If the child can't see the mist they tolerate the med better.
- If you need to apply a nasal cannula, attach the tape first to the tube. Stick it onto their face and then after they've had a few seconds to calm, slowly turn on the air flow. By the way, kids tend to tolerate a nasal cannula far better than a mask or even blowby.
- The process for giving oral medications to a child that doesn't want it is the following. Have the parents hold them and hug their arms down, lay them against the parent at a 45 degree angle, place the syringe between the teeth, on top of their tongue, slowly squirt the medication toward the cheek (not the back of the throat), **DO NOT remove the syringe until they have swallowed!** This is the biggest mistake in administration. Keep it on top of the tongue, it will keep them from using their tongue to spit it back at you.
- Distraction and toys are your best friend. Give the child time to calm and the words "All done" and "No Owies" when spoken truthfully are magic.

News From National

The American Academy of Pediatrics puts out a great newsletter on children in disasters here are a few selected events coming up that were advertised in that newsletter.

Sunday, September 17, 2017, 7:30am CT – 8:15am CT

➤ Disaster Health Education Symposium: Advancing the State of the Art

The National Center for Disaster Medicine and Public Health and the Uniformed Services University School of Medicine will host the [Disaster Health Education Symposium: Advancing the State of the Art conference](#) on September 7, 2017, in Bethesda, Maryland. This symposium will provide a forum with a specific focus on education and training in disaster medicine and public health. The symposium will:

1. Highlight approaches, science, and practice for education and training in disaster medicine and public health.
2. Present a forum for collaboration and networking among disaster medicine and public health professionals.
3. Explore the implications of the latest practice and research for disaster medicine and public health learning and performance.
4. Identify key areas for future research.



August 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8 EGR	9	10 EMSC Advisory Board Mtg	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25 PALS skills Richfield	26 PALS skills Fillmore
27	28	29	30	31		

Pediatric Education Around the State

Pediatric Grand Rounds (PGR) are educational/CME offerings webcast weekly (Sept-May) you can watch live or archived presentations. It is geared towards hospital personnel. But will qualify for BEMSP CME. Access at <https://intermountainhealthcare.org/locations/primary-childrens-hospital/for-referring-physicians/pediatric-grand-rounds/>

EMS Grand Rounds (EGR) This offering alternates with Trauma Grand Rounds every other month, it is geared towards EMS. Live viewings qualify for CME credit.

There are 2 ways to watch

1. Live real time viewing via the internet at: www.emsgrandrounds.com. If you would like to receive CME for viewing this presentation live, email Zach Robinson (Zachary_robinson@hsc.utah.edu)
2. Delayed viewing at your personal convenience, a week after the presentation at: www.emsgrandrounds.com

August 8th 2:00 pm—3:00 pm *Street Medications* Utah Poison Control Center

Peds EMS Lecture Series (PEL) Free monthly pediatric CME/CEU presentations from Primary Children's Emergency Department Attending Physicians to Utah's EMS. Offered every 3rd Thursday. Contact Lynsey.Cooper@imail.org for info -On hold until further notice.

Project ECHO Burn and Soft Tissue Injury (ECHO) has a pediatric and adult component. CME/CEU and MD CME available

<https://crisisstandardsofcare.utah.edu> click request access and follow instructions.

October 16th will be held in Richfield. We will be teaching the last 2 courses in SITT and Utah / Wasatch early next year.

Upcoming Peds Classes, 2017

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

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

Save the Date

Sept 8-10th, 2017 Annual EMSC Coordinator's Workshop

Sept 15-16, 2017 5th Annual [Eastern Utah Emergency Services Symposium](#)

Sept 15th, 2017 [14th Annual Utah Trauma Network \(UTN\) conference](#)



Emergency Medical Services for Children Utah Bureau of EMS and Preparedness

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WERE ON THE WEB

[HTTPS://BEMSP.UTAH.GOV/](https://bemsp.utah.gov/)

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.

Save the Date

The count down has begun. We are so excited to be able to rub elbows with the EMSC County Coordinators at our annual workshop. The agenda is coming together. If you haven't responded to Andy about your room preferences please do so ASAP. September 8-10th in Moab Utah

