MONTANA EMERGENCY MEDICAL SERVICES FOR CHILDREN (EMSC) & CHILD READY MT

MT EMSC CONNECTION NEWSLETTER August 2018

This issue has information on –Hot Cars; Pediatric Septic Shock; Concussion resources; and MORE!
TRIVIA- Dose by Growth Tape

MANY CHILDREN NEEDLESSLY DIE IN HOT CARS EACH YEAR –

BY THE NUMBERS

- ✓ **10 minutes:** the amount of time it takes for a car temperature to become deadly (**20-30 degrees hotter than the outside** temperature.
- ✓ **75% of the heating occurs in the first** 5 minutes **and 90% in the first 15 minutes.**
- ✓ **37 children**: the number that die from heatstroke in cars on average every year
- ✓ **57 degrees**: the lowest known outside temperature at which heatstroke can occur

BY CIRCUMSTANCE

742 children died from heatstroke in cars from 1998 – 2017

- 54% were forgotten by a caregiver
- 28% were playing in a vehicle alone
- 17% were left in the vehicle by an adult on purpose
- 1% died under unknown circumstances

KNOW THE FACTS

WHEN ARE CHILDREN FORGOTTEN?

- When there is a change in schedule (i.e., a different caregiver is dropping the child off at daycare)
- When the caregiver is distracted or in a hurry

NEVER leave a child in a vehicle alone

- **even "just for a minute"**
- **even with the windows and doors open**
- **even in the garage**

CHECK the back seat every time you leave the car!

TELL your childcare provider to call you when your child is absent!

SET UP a reminder system by leaving your phone in the back seat!

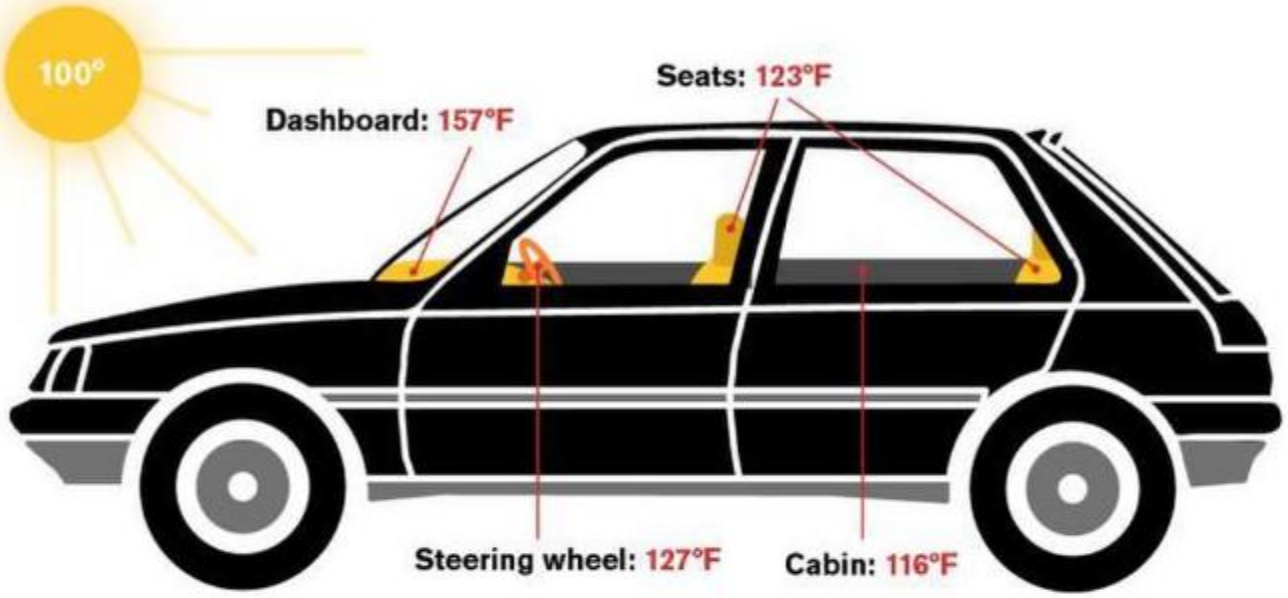
ALWAYS keep car doors and trunks locked and keys out of reach!

Hyperthermia (acute form as heatstroke) and is medically defined as a core body temperature from 37.5–**38.3 °C**. A body temperature of above **40°C** (100° F) is likely to be fatal due to the damage done to enzymes in critical biochemical pathways (e.g. respiratory enzymes).

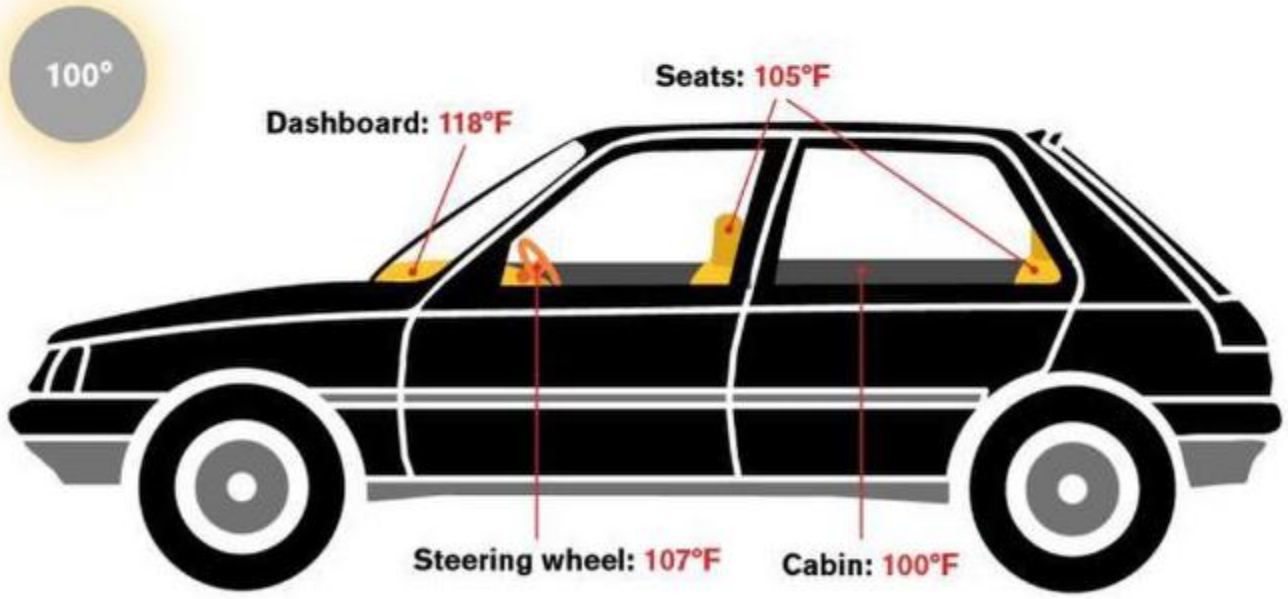
CALL 911 if you see a child left alone in a vehicle

Sources and Info: Source: U.S. Department of Transportation, National Highway Traffic Safety Administration (NHTSA), Click here to download an infographic, state-by-state statistics and the memorial photo wall graphics.

Vehicle parked in the sun on a 100°F day for 60 minutes



Vehicle parked in the shade on a 100°F day for 60 minutes



Data Source: Vanos, Middel, Poletti, Selover. *Temperature*, 2018.

https://www.livescience.com/62651-how-hot-cars-get.html

Minority Mental Health

Health gaps among minorities have been closing, but there remains a lot of work to do. According to the Agency for Healthcare Research and Quality (AHRQ), members of a minority are less likely to have access to mental health services, less likely to use community mental health services, **more likely to use emergency departments**, and more likely to receive lower quality care. Stigma, too, keeps perpetuating the idea that mental health care and mental illness are something to be ashamed of.

The numbers and facts speak for themselves. According to the Substance Abuse and Mental Health Services Administration:

- Americans from low-income households receive worse care than middle-income and high-income Americans.
- Over 70% of Black/African American adolescents with a major depressive episode did not receive treatment for their condition.
- Almost 25% of adolescents with a major depressive episode in the last year were Hispanic/Latino.
- Nearly 1 in 10 American Indian or Alaska Native young adults reported serious thoughts of suicide.
- Nine out of 10 children who die by suicide have a mental health condition.
- African Americans and Hispanic Americans each use mental health services at about one-half the rate of Caucasian Americans, and Asian Americans at about one-third the rate.

Mental health is a critical health aspect for everyone. **Young people and adults who don't receive treatment for serious mental illness are at greater risk for chronic medical conditions, and are more likely to die an average 25 years earlier than others.**

It's up to us to destigmatize mental illness. We can do this by having open, honest dialogues about mental illness with our families, our friends, and even with ourselves. We have to be role models for our children, and show them that it's OK not to be OK—with time, and appropriate care, we can get to a place of healing for us and our families.

We also need to keep an eye on our children. The U.S. Department of Health & Human Services highlights the importance of being aware of the signs and symptoms of childhood mental illness, and recommends consulting with a school counselor, school nurse, mental health provider, or another health care professional if a child shows one or more of the following behaviors:

- Feeling very sad or withdrawn for more than two weeks;
- Experiencing sudden overwhelming fear for no reason, sometimes with a racing heart or fast breathing;
- Getting in many fights or wanting to hurt others;
- Showing severe out-of-control behavior that can hurt oneself or others;
- Not eating, throwing up, or using laxatives to make himself or herself lose weight;
- Having intense worries or fears that get in the way of daily activities;
- Experiencing extreme difficulty controlling behavior, putting himself or herself in physical danger or causing problems in school;
- Using drugs or alcohol repeatedly;
- Having severe mood swings that cause problems in relationships; or
- Showing drastic changes in behavior or personality.

Consider any act or plan of self-harm an automatic *red flag*, signaling you to seek help immediately.

The consequences of living with untreated mental health illness can be devastating and deadly. Being aware of the signs of mental illness and seeking help when needed are vital in **helping our children live their healthiest, happiest lives.**

Three Approaches to Help Us Reach Zero Traffic Fatalities

Deborah A.P. Hersman, president and CEO of the National Safety Council

For the first time since recordkeeping began over a hundred years ago, unintentional injury has catapulted to the #3 overall cause of death for Americans. **Motor vehicle crashes are a top cause of unintentional death throughout our lives**. However, they **disproportionately affect children and young adults**, meaning they take lives of those who have the most life left to live. We drive safer cars, we know what causes crashes, and yet we are still moving in the wrong direction when it comes to motor vehicle deaths.

	Age 1-4	Age 5-14	Age 15-24	Age 25-34	Age 35-44	Age 45-54
1	Congenital anomalies	Motor Vehicle	Motor Vehicle	Poisoning	Poisoning	Cancer (all types)
2	Drowning	Cancer (all types)	Suicide	Cancer (all types)	Cancer (all types)	Heart Disease
3	Motor Vehicle	Suicide	Homicide	Motor Vehicle	Heart Disease	Poisoning
4	Cancer (all types)	Congenital anomalies	Poisoning	Homicide	Suicide	Suicide
5	Homicide	Homicide	Cancer (all types)	Cancer (all types)	Motor Vehicle	Liver Disease
6	Suffocation	Drowning	Heart Disease	Heart Disease	Homicide	Diabetes
7	Heart Disease	Heart Disease	Drowning	Liver Disease	Liver Disease	Motor Vehicle
8	Fire/burn	CLRD	Congenital anomalies	Diabetes	Diabetes	Stroke
9	Flu/Pneum	Fire/burn	Diabetes	Stroke	Stroke	CLRD
10	Septicemia	Stroke	CLRD	HIV	HIV	Septicemia

Figure 1: Comparison of Preventable Causes with Other Leading Causes of Death, 2016. Source: NSC Analysis

Today, motor vehicle crashes are also the leading cause of fatalities in the workplace. Our cultural Novocain regarding roadway fatalities has yet to wear off, but making headway in transportation safety is far from impossible. In the last century, working on the railroad has gone from one of the deadliest jobs - with thousands of rail worker deaths a year - to an industry with fewer than twenty on-the-job fatalities annually as a result of significant commitment to send every employee home safely. In the last two decades we have seen commercial aviation transform.

The Road to Zero Coalition was announced in 2016 with a vision of eliminating roadway fatalities by 2050. Beginning with the premise that zero was the right goal, the Coalition follows in the footsteps of Towards Zero Deaths and Vision Zero programs. Working in concert with road safety researchers and experts, the nearly 700 member-strong Coalition has **created a blueprint to help identify obstacles and opportunities on the road towards zero roadway fatalities.**

Doubling down on what works begins with refocusing on successful traffic safety strategies that address familiar hazards such as speed, impairment and distraction, but also renewing our commitment to **key safety habits like wearing seat belts**. To date, tens of thousands of lives have been saved through these measures and doubling down on existing traffic safety actions keeps that momentum moving forward.

Accelerating technology can help drivers avoid dangerous mistakes and assist with safe vehicle operation. While widespread ownership or use of self-driving cars is decades away, a recent study by Carnegie Mellon found that just three existing technologies could save upwards of 10,000 lives each year - forward collision warning, lane departure warning, and blind spot monitoring.

Another crucial element is improving access to appropriate trauma care centers in rural areas. We must prioritize investment in trauma system needs and identify methods with greatest return on investment. The more we work to achieve rural safety goals, the more lives we can save.

Whether you live in an urban or rural environment, ride a bike, drive a car to work or walk to school, your safety should be prioritized. Over 100 people die every day in motor vehicle crashes on U.S. roadways. Every one of these deaths is preventable. There is not a single person we would willingly sacrifice for the convenience of getting from point A to point B. And there is not a single reason in the world why we cannot get closer to our goal of zero.

Visit nsc.org/roadtozero to learn more, read the full report and join the Road to Zero. You can also view the archive of the Safety Center's May 2018 Webinar featuring Jane Terry of the National Safety Council and Jeff Lindley of the Institute of Transportation Engineers speaking about "Road to Zero: Getting to Zero Roadway Fatalities: What will it Take." To view the archive, click here. https://ruralsafetycenter.org/resources/list/road-to-zero-2/

How Emergency Departments Can Help Prevent Suicide among At-Risk Patients: Five Brief Interventions

This nine-minute video describes the unique role that emergency department (ED) professionals can play in preventing suicide by providing five brief interventions prior to discharge. It provides action steps and tools for implementing the following interventions: **Brief Patient Education** — Help the patient understand their condition and treatment options and facilitate adherence to the follow-up plan.

- **Safety Planning** — Work with the patient to develop a list of coping strategies and resources they can use before or during a suicidal crisis.
- **Lethal Means Counseling** — Assess the patient's access to firearms, prescription and over-the-counter medications, and other lethal means, and discuss ways to limit access until they are no longer suicidal.
- **Rapid Referral** — Schedule a follow-up outpatient mental health appointment for the patient that ideally occurs within 24 hours of discharge.
- **Caring Contacts** — Follow up with the discharged patient via postcards, letters, e-mail or text messages, or phone calls.

To learn more about each of these interventions, see *Caring for Adult Patients with Suicide Risk: A Consensus Guide for Emergency Departments*.

Children's Hospitals and Preparedness Webinars Archived

The AAP and the CDC work together to improve children's preparedness planning. The Children's Hospitals and Preparedness **Webinar Series aims to promote a dialogue among clinicians and disaster planners** at children's hospitals and **to improve each hospital's response plan and ability to care for children in an emergency.**

Recent webinars in this series, "Planning for Hospital Pediatric Surge: Solutions Within Reach", and "Family Reunification: Debut of a New AAP Tool", will be archived on the AAP Disaster Preparedness and Response Webinar Archives Web page. https://www.aap.org/en-us/Documents/PediatricSurgePlanningWebinarSlidesJune252018.pdf

From our California Colleagues at USCF Child Trauma Research

Dr. Chandra Ghosh, the Deputy Director of the UCSF Child Trauma Research is informing about the **free** "*Trinka and Sam and the Big Fire"* coloring book resource. It's funded by SAMHSA, **disseminated freely** by the National Child Traumatic Stress Network and serves as a **population-based intervention following fires**. It is available in English and Spanish.
Helps young children and their families talk about feelings and worries they may have after experiencing a large-scale fire, like a wildfire. This children's book describes some of Trinka's and Sam's reactions and talks about how their parents help them to express their feelings and feel safer. A caregiver guide is available in the back of the book that provides ways parents can use the story with their children.

For the children and families of California, **Montana**, and Oregon and children and families who have experienced fires around the world. And, for all the firefighters out there, thank you for all you do!
English Version: https://www.nctsn.org/resources/trinka-and-sam-big-fire
Spanish Version: https://www.nctsn.org/resources/trinka-y-juan-el-gran-fuego

The National Child Traumatic Stress Network provides other useful resources for public health, mental health, and emergency preparedness/response here:
https://www.nctsn.org/what-is-child-trauma/trauma-types/disasters/wildfire-resources
https://www.nctsn.org/what-is-child-trauma/trauma-types

FULL MOON---Fact or myth?

It's an almost universal belief among emergency medical personnel that patient volumes and patient behavior are affected by the phases of the moon. Particularly, many believe **that EMS calls & visits, childbirth, psychiatric behavior and numerous other things increase during the full moon phase of the lunar cycle**.

It is believed by some of the gravitational pull of the moon, which causes the tides, can have an effect on the human body causing behavioral and physiologic changes. However, in humans, this has not been identified. Some conditions have been investigated in terms of the effect of the lunar cycle on them. Here are a few examples:

1. Are heart attacks and cardiac arrests more common during a full moon?
Studies have shown that (after studying 2,370,233 ED visits) the occurrence of cardiopulmonary resuscitation was not more common during the full moon interval.

2. Do intracranial aneurysms rupture more often during full moon periods?
Again after much research…determined that the phases of the moon were not associated with intracranial aneurysm rupture. One study found ruptures were more common when the moon was least luminated (i.e., new moon).

3. Are kidney stones more common during a full moon?
Does the gravitational effect of the full moon cause the movement of kidney stones, and an increased incidence of kidney stone during full moon phases? In a Swiss study, over a 11- year interval with 1,500 patients...unable to associate an increased incidence of kidney stones with the full moon phase.

4. Are psychiatric emergencies more common during a full moon?
Does a full moon cause worsening psychosis for patients with mental illness? A 2017 study of 1,857 who presented to their ED with a psychiatric component found no difference in the number of visits during a full moon phase. A Mayo Clinic study found no association between psychosis and a full moon. The same holds true for pediatric psychiatric patients. Another study--no association between suicide and a full moon.

5. Is childbirth more common during a full moon?
A longstanding belief is that the number of childbirths increase during a full moon. Multiple studies of 10,027 deliveries over an 18-month period found no increase in deliveries during the full moon phase.

6. Are emergencies more common during a full moon?
There is no evidence that ED visits, EMS runs or similar emergencies occur more frequently during a full moon phase. A four-year study concluded no relationship between ED volume, ambulance runs, admissions, or admissions to monitored care during the full moon phase. However, there appears to be an increased incident of motorcycle collisions during the full moon phase. Otherwise, a full moon has no impact on the occurrence of emergencies. Excerpts from the article: https://www.jems.com/articles/2018/07/it-s-a-full-moon-tonight.html?cmpid=enl_jems_now_2018-07-26?&pwhid=02a5d34e5ac3af89cce7805d788e3dcf9d7de6b32fc78c6c66a1334fcffee314fdfd8c0dcc0cd3216e32897fdcc6e6875566b2e4b2274260ae8c3f644f6649cb&eid=397630283&bid=2186751

However: "Our bodies are 70% water, and because the moon moves the oceans, it moves the water in your body — people flip out." (anon)

Moon schedule: Aug 26-Sturgeon Moon; Sep 24- Harvest Moon; October 24-Hunter's Moon; November 23 – Beaver Moon; and December-Cold Moon

ADA (Americans with Disabilities Act) National Network Learning Session: Smart911 Program Outcomes During the Missoula 2017 Wildfire Season; Lessons from a Whole Community Approach to Emergency Planning

This one-hour, 40-minute webinar features speakers from **Missoula County** who share lessons learned from targeted promotion activities and use of Smart911, SmartPrepare, and Rave Alerts to reach persons with disabilities and with access and functional needs. They discuss how they integrated these systems into emergency management activities, including response activities during the 2017 Missoula wildfire season.

Check this out at: https://disasterinfo.nlm.nih.gov/search/id:17540
Access Notes: Link to video recording: http://www.adapresentations.org/archives/stream.php?id=139
Audio recording: http://www.adapresentations.org/archives/6_14_18/Whole%20community%20approach%20to%20ep_Smart911.mp3
Presentation slides: http://adapresentations.org/doc/6_14_18/Whole%20community%20approach%20to%20ep_Smart911%20180506.pdf

MTDH Emergency Medical Information Kit - Available at: http://mtdh.ruralinstitute.umt.edu/?page_id=6945
- Checklist that parallels the Smart911 Safety Profile
- Information and Assent form
- Bag for completed form with magnet hook to hang kit on refrigerator

Montana Disability and Health program has created an ***Emergency Medical Information Kit*** to improve communications about medical and functional needs during an emergency. The kit also promotes awareness of Smart911 and offers support for people with disabilities that may need help creating their profiles; as well as provide information about available emergency preparedness materials. The kit materials include a plastic bag, an Emergency Medical Information form, and a magnetic hook.

Complete the form and keep it in the Emergency Medical Information Kit's plastic bag.

(Emergency Medical Information form can be downloaded as an electronic, fillable form here: PDF, Word

You may choose to keep the bag on your refrigerator where trained emergency responders can find this information. If you need to go to the hospital or evacuate your home, you can take the Emergency Medical Information Kit with you.

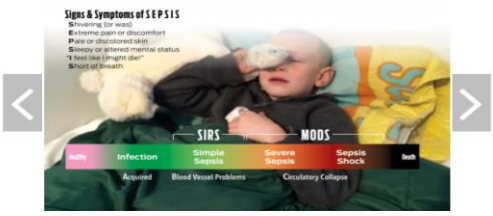
You may want to add these items to your Emergency Medical Information Kit:

1. Recent photos of you, your family, and animals.
2. Your Living Will, Advanced Directive, Do Not Resuscitate orders (DNR), Physician Orders for Life Sustaining Treatment (POLST), or similar documents. These documents must be original and signed for emergency responders or doctors to act on your instructions.
3. A list of your current medications with the name of your pharmacy.

The ABCs of Pediatric Sepsis

By Rommie L. Duckworth, LP Jan 07, 2016

Print Version



The Most Common Deadly Disease-do you know?

Pediatric sepsis maybe the most common deadly disease? Even among advanced healthcare providers, understanding and documentation of sepsis as a primary disease are poor. Many EMS providers think sepsis is a rarely encountered and slowly progressing disease found in elderly patients. The truth is that sepsis is terribly common, affects all age groups and in pediatric patients, is often subtle, with deterioration occurring suddenly and fatally.

EMS Can Make the Difference

Studies have shown that when EMS transports sepsis patients, these patients receive IV fluids, antibiotics and in-hospital sepsis treatment much faster. Systems with designated sepsis alerts are shown to reduce overall sepsis mortality along with significant reductions in length of hospital stay, time in ICU and cost per stay. Unfortunately, the research also shows that many EMS systems have a long way to go when it comes to identifying sepsis. A 2013 study evaluated over 200 EMS providers, 83% of whom were paramedics and 73% of whom had been in EMS for over 10 years. **They were given four scenarios in which to identify septic shock. Only 10% of them got the scenarios correct.**[18]

Sepsis always begins with infection. Bacterial, viral, parasitic or fungal pathogens get inside the body and begin to reproduce in infection. These pathogens release toxins called exotoxins and endotoxins that damage the local body tissue. Normally the body's first line of defense—the innate immune response—senses these toxins and begins to act quickly to attack the pathogens producing them.

EMS providers may wonder where to begin with pediatric patients. Fortunately, the answer follows a format that most EMS providers already know. To help victims of sepsis overall and pediatric patients specifically, EMS providers can follow the **ABC**s: **A**cquire knowledge about sepsis; **B**e ready to give sepsis alerts; **C**hildren with sepsis need an advocate.

The first step in recognizing sepsis is attempting to identify if the patient has an infection. Sometimes it will be obvious if a child has an infection, but many times the signs of the infection **will be subtle**. Consider the following clues and cues for infection: *Is the child either febrile or hypothermic (possible in circulatory collapse: severe sepsis and septic shock)? Does the child have a recent history of vomiting or diarrhea? Burns? Abscesses? Blotches? Have they recently been on antibiotics? Have they had regular childhood immunizations withheld?*

To read the full article go to: https://www.emsworld.com/article/12156059/the-abcs-of-pediatric-sepsis

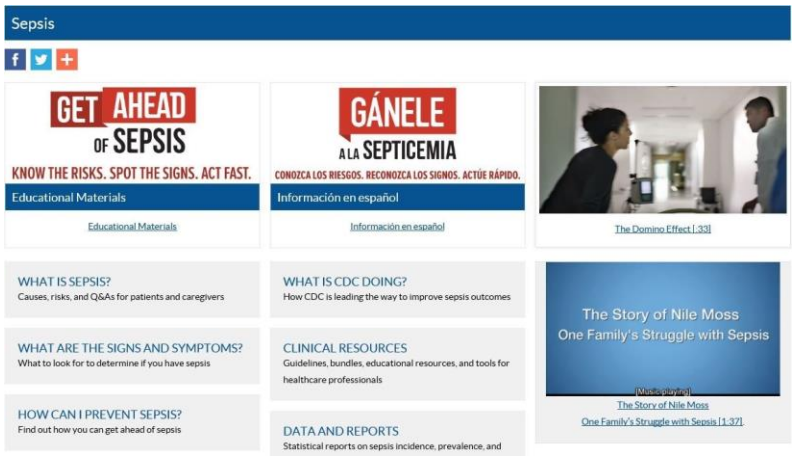
Pediatric Learning Solutions courses:

Pediatric Sepsis - Describes sepsis and the mechanisms behind systemic inflammation; Discusses prevention, recognition and management of pediatric sepsis; Available for CNE and CRCE contact hours
Caring for the Pediatric Patient in Shock - Focuses on recognition and differentiation of obstructive, cardiogenic, hypovolemic and distributive shock; Describes management strategies for each type of shock, including pediatric-specific national guidelines for septic shock management
New! Neonatal Sepsis- Identifies the various factors that make the newborn infant susceptible to infection; Focuses on recognition of neonatal sepsis including differentiation of early- and late-onset sepsis; Outlines the current standards of care in the management of neonatal sepsis, including treatment for congenital infections. Available for CNE and CRCE contact hours.

https://www.childrenshospitals.org/Quality-and-Performance/Sepsis

Find Life-saving Information Quicker and Easier On CDC's New Sepsis Website

CDC has redesigned its sepsis website to make it easier for patients, families, and healthcare professionals to find the life-saving resources they need to protect their loved ones and patients from sepsis.



Sepsis is the body's extreme response to an infection, including those caused by antibiotic resistant bacteria. It is life-threatening, and without timely treatment, sepsis can rapidly cause tissue damage, organ failure, and death.

The new sepsis website includes:

- **Improved organization** of content and educational materials
- **Optimized search function** to find information quickly and easily
- **Mobile-friendly format** to access sepsis information on the go
- **Educational materials en español** available for download

Visit the new website today to learn more about sepsis and how to prevent infections at www.cdc.gov/sepsis.

TRIVIA

Answer the trivia and win a 2017 Broselow Tape –to the first 5 to email answers to Robin - rsuzor@mt.gov NOT to the listserve.

1. **How long does it take for a car temperature to become deadly?**
2. **What is the temperature in a car parked in the sun after 60 minutes?**
3. **Who is Trinka?**
4. **What percentage of our bodies are water?**
5. **What is the top cause of intentional death?**

MONTANA DPHHS Healthy People. Healthy Communities. Department of Public Health & Human Services

Public Health IN THE 406

MONTANA EMS & TRAUMA SYSTEMS PROGRAM

EMERGENCY MEDICAL SERVICES FOR CHILDREN PROGRAM, MT DEPARTMENT OF PUBLIC HEALTH AND HUMAN SERVICES, EMERGENCY MEDICAL SERVICES & TRAUMA SYSTEMS, P.O. BOX 202951, HELENA, MT 59620 – CONTACT INFORMATION: rsuzor@mt.gov or (406) 444-0901