

Health Emergencies and Treatment

School Safety Academy
August 2016

Emergencies

- Severe Allergies – Food, Insect, Others
- Diabetes
- Asthma
- Seizures
- Overdose
- Concussion
- Sudden Cardiac Arrest



Ways Emergency Medication Can Be Administered in School Setting

- **Health Care Provider Supplies a Student-Specific Order to the School Nurse** – School Nurse writes an Individual Health Plan for each student; and School Nurse either administers medication or delegates to another (School Nurse retains accountability for the outcome)
- **Student Self Carries** – Certain protocols must be in place
- **Health Care Provider Supplies a Stock Order to the School Nurse** – School Nurse administers or delegates to another (School Nurse retains accountability for the outcome – no IHP in place)

Emergencies – Self-Carry Law IC 20-33-8-13

- Allows student to self-carry medication if ALL of the following occur
- Parent has given authorization for the student to possess and self-administer the medication
 - A health care provider states in writing that:
 - The student has been prescribed medication to treat an acute or chronic disease
 - The student has been instructed on how to self-administer the medication
 - The medical condition requires emergency administration of the medication
 - These statements must be filed annually with the student's principal

SEVERE ALLERGIES

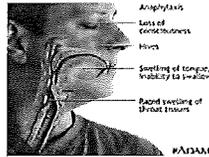
EPINEPHRINE

Definition and Incidence

- Anaphylaxis is the rapid onset of symptoms after exposure to an item that is causing a severe allergic response
- It is not always due to an obvious cause and at times can be hard to avoid, even if the cause is known
- Anaphylaxis causes 150 – 200 fatalities a year
- 79% of the symptoms begin in the classroom and 12% in the cafeteria
- IDOE received over 100 reports that Epinephrine was given this past school year

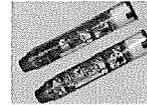
Signs and Symptoms of Emergency

- Hives or itchy skin
- Swelling of the throat, lips or tongue
- Difficulty breathing or swallowing
- Nausea or vomiting
- Anxiety or overwhelming sense of doom
- Weakness, loss of consciousness



Emergency Medications

- Epinephrine (EpiPen)
- Activate EMS whenever Epinephrine has been administered



Pertinent Indiana Law

- IC 20-34-4.5
- Schools may fill a prescription for Epinephrine from a licensed health care provider
- School must store the Epinephrine in a safe location where only school personnel have access
- School nurse may administer the medication to a student, staff member, or visitor who is demonstrating signs of life-threatening anaphylaxis and the individual's medication is not available

Pertinent Indiana Law

- IC 20-34-4.5
- School employee may administer the medication to a student, staff member, or visitor who is demonstrating signs of life-threatening anaphylaxis and the individual's medication is not available if the employee:
 - Volunteers
 - Receives training from a health care provider who is knowledgeable in recognizing the symptoms of anaphylaxis and the administration of epinephrine

Items to Consider

- Best to have a plan in place to avoid triggers – ensure staff understand the importance of handwashing, cross-contamination, and non-typical items that can cause a reaction
- New Protocol for EpiPen is to hold for only 3 seconds instead of 10 seconds
- 24% of the time a second dose is required
- Auvi-Q has been recalled and should not be in your school



Items to Consider

- If you have stock epinephrine medication – you must have a written order, school policy regarding who can administer, under what circumstances, when can the school nurse delegate, can it be given to only those with diagnosis, and the purchasing and storing of medication

DIABETES

GLUCAGON

Definition and Incidence

- Diabetes is a chronic disease where sugar or glucose builds up in the body and overtime, if not treated properly, can lead to damage of the eyes, kidneys, heart, nerves, and blood vessels
- Students with diabetes require careful daily monitoring and management of blood glucose levels to prevent serious complications
- Approximately 4,000 Indiana students have a diagnosis of diabetes

Signs and Symptoms of Emergency

- Normal Blood Sugar = 70-150
- Low Blood Sugar (Hypoglycemia) = Under 70 or exhibiting symptoms - the lower the more emergent
- High Blood Sugar (Hyperglycemia) = Above 250-300 -- not emergency unless very high or exhibiting symptoms

Hypoglycemia Symptoms

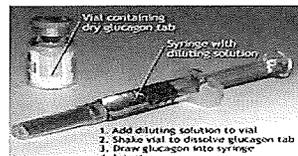
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| • Hunger | • Dizziness |
| • Irritability | • Paleness |
| • Behavior change | • Weakness |
| • Headache | • Poor coordination |
| • Shakiness | • Confusion |
| • Sweating | • Restless |

Emergency Medications

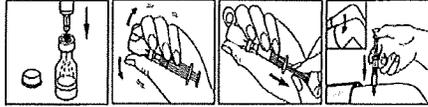
- If available and able – check student blood sugar (finger stick or continuous glucose monitor)
- Symptomatic and/or blood sugar under 70 requires giving food if able to swallow or injecting GLUCAGON (sugar) if not conscious



Emergency Medications



Emergency Medications



Pertinent Indiana Law

- Indiana Code 20-34-5 = Care of Students with Diabetes (8 Sections)
- Definitions
 - Requirements of plan
 - Development of plan
 - Use of volunteer health aides
 - Diabetes training program
 - Tasks
 - Diabetes activities
 - Information sheet

Items to Consider

- Very specific Indiana Law
- Many use this law as template for managing other chronic diseases
- Every student with diabetes must have an IHP written by an RN
- Glucagon has to be mixed, drawn up and injected using a needle/syringe in order to administer

ASTHMA

ALBUTEROL

Definition and Incidence

- Asthma is a disease that affects airways in the lungs and is one of the most common chronic diseases seen in children
- An asthma episode can occur when a person is exposed to asthma triggers such as tobacco smoke, mold, dust, pets, fragrances or exercise
- It is the leading cause of days missed at school due to a chronic health condition as students miss over 14 million days of school each year because of asthma
- 9% of your students will have a diagnosis of asthma

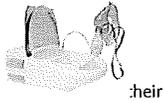
Signs and Symptoms of Emergency

- Severe Wheezing or Coughing
- Chest Tightness
- Shortness of Breath – Hunched Over
- Trouble Walking or Talking
- Fingernails or Lips are Blue or Gray

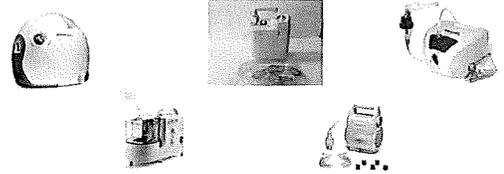


Emergency Medications

- Albuterol
- Nebulizer with mask is best
- Inhaler with a spacer is second choice
- Call EMS
- Have student lean forward, elbows on knees
breathing



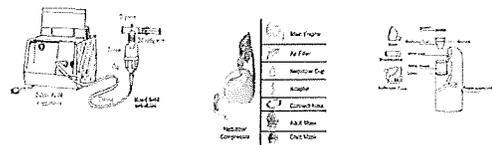
Variety of Nebulizer Machines



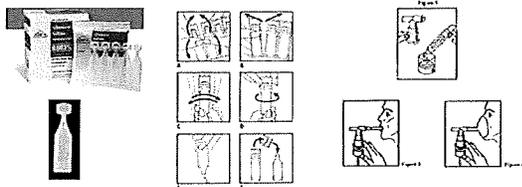
Variety of Nebulizer Machines



Nebulizer Machines



Albuterol Medication via Nebulizer



Albuterol via Nebulizer



Pertinent Indiana Law

IC 16-41-37.5 = Indoor Air Quality in Schools

- Many resources to help you with this law are available on the IDOE Health Webpage
- Inspections can be done by the Indiana Department of Health to check for carbon dioxide, temperature, humidity, mold and dust
- Schools must have a designated IAQ Coordinator and policies written regarding vehicle idling, animals, chemicals and pesticides

Items to Consider

- Limit triggers – follow IAQ guidelines, clean up food and spills promptly, limit food in the classroom, fix water leaks, replace draperies with blinds, limit carpet in classrooms, remove upholstered furniture, stuffed animals and pillows

SEIZURES

DIASTAT or VERSED

Definition and Incidence

- Seizure disorders occur when a disturbance in the brain produces changes in awareness or sensation, involuntary body movements, or changes in behavior lasting from a few seconds to minutes
- A seizure disorder can impact a student differently depending on age, type of seizures, response to treatment, and whether the student has other health issues
- Approximately 10,000 Indiana students have a seizure disorder

Signs and Symptoms of Emergency

Consider a seizure an emergency and call 911 if any of the following occurs:

- The seizure lasts longer than 5 minutes without signs of slowing down or if a person has trouble breathing after, appears to be in pain, or recovery is unusual in some way
- The person has another seizure soon after the first one
- The person cannot be awakened after the seizure activity has stopped
- The person became injured during the seizure
- The person becomes aggressive during or after the seizure
- The seizure occurs in water
- The person has an additional health condition like diabetes, heart disease, or is pregnant

Emergency Medications

Diastat – administered rectally

Versed - inhaled



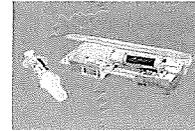
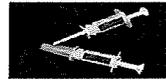
Emergency Medications

DIASTAT

- A gel preparation of valium that is used only for emergency seizure activity
- Most common side effects are respiratory depression, drowsiness, headache, dizziness, diarrhea, flushing, unsteady gate, agitation and confusion

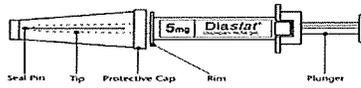
Emergency Medications

DIASTAT



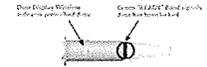
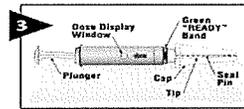
Emergency Medications

DIASTAT – Single Dose Kit



Emergency Medications

DIASTAT – Multiple Dose Kit



Emergency Medications

DIASTAT



Emergency Medications

DIASTAT – must determine safe location to administer



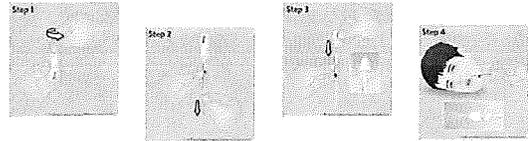
Emergency Medications

VERSED – medication must be drawn up, kit put together, nasally injected



Emergency Medications

VERSED



Emergency Medications

- | | |
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| <p>Diastat – administered rectally</p> <ul style="list-style-type: none"> • Must consider privacy issues and staff comfort level for administering • Pre-mixed | <p>Versed – inhaled</p> <ul style="list-style-type: none"> • Off-label at this time • Less respiratory depression • Must draw up into syringe and assemble kit • More pediatricians prescribing |
|--|---|

Pertinent Indiana Law

- No specific law regarding seizure medication
- School policy needed
- Nursing law does apply regarding delegation – Nurse Practice Act
- Staff member can be trained, but must be delegated/supervised by an RN and the staff member must be willing to do/volunteer

Items to Consider

- Ensure staff understands the medication and the route
- Many schools consider a policy where school will not administer first dose of emergency medication – must have had once before with side effects noted – will call 911 and allow paramedic to administer first dose
- School must always call 911 after the administration of any emergency medication

OVERDOSES

NALOXONE

Definition and Incidence

- Opiates are a type of narcotic drug that acts as a depressant on the central nervous system
- Some of the most common opiates include – prescription painkillers such as codeine, hydrocodone (Vicodin), oxycodone (OxyContin, Percocet); demerol; morphine; and heroin
- Common drugs that are *not* an opioid include – cocaine, LSD, ecstasy, sedatives, tranquilizers, marijuana (Street Names – Molly, Benzos, downers, nerve pills, tranks, barbs, valley girl, pot)

Indiana Incidence – All Substances

- In 2013, Indiana ranked 16th nationally regarding drug overdose deaths
- IN providers ranked higher than 41 other states for writing the most opioid prescriptions per person
- 21% of IN high school students and 11% of IN college students reported using controlled substances for non-medical reasons
- Overdose deaths increased by 500% between 1999-2009

Indiana Incidence – Heroin

- Need to carefully look at statistics
- Heroin use is on the rise globally, especially in the 19-25 year old age group (many statistics refer to all ages or those ages 12-25)
- Heroin deaths in Indiana rose from 16 in 2007 to 170 in 2011 (applies to all ages)
- Many people become addicted to prescription painkillers and move onto heroin because it is cheaper and more easily accessible

Heroin

- Can be inhaled, snorted, smoked, injected or swallowed
- Called “snorting, sniffing, shooting up, mainlining, skin-popping or muscling”
- Street names – Smack, H, Tar, Chiba, Junk, Brown Sugar, Skag, Mud, Dragon, and Dope

Signs and Symptoms of Emergency

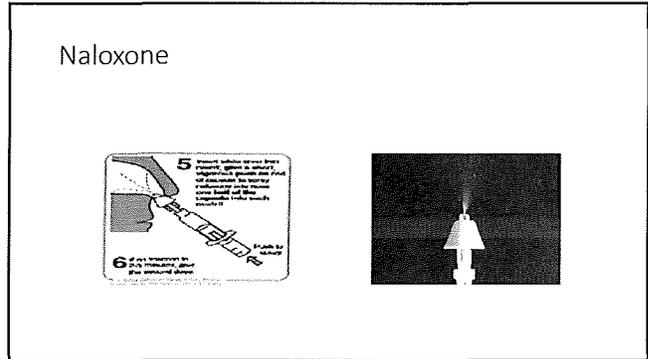
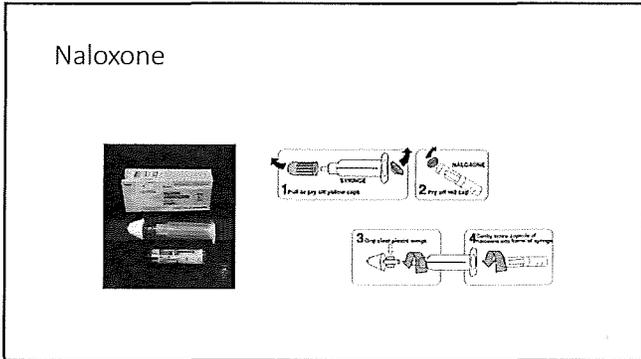
- No response to stimuli (shaking or sternal rub)
- Infrequent or no breathing (normal is more than 12 breaths a minute)
- Deep snoring or gurgling
- Pale, clammy skin
- Blue lips or fingertips
- Small (pinpoint) pupils
- Slow pulse
- Ultimate death due to suppressed drive to breathe



Emergency Medications

Naloxone (Narcan)

- Can be given by injection (auto-injector, IV, IM) or by intranasal spray
- Auto-injector = EVZIO
- Recommend intranasal spray for schools – lower risk of blood exposure, administered quickly, and rapid onset of action



Pertinent Indiana Law

IC 16-31-3-23.5

- First responders can administer a prevention drug to a person experiencing an overdose
- First responders = emergency medical responders, EMT, paramedics, firefighters and law enforcement
- Law states provider can write an order and pharmacist can fill an order for this list of first responders
- EMS must report to ISDH any naloxone administered through the EMS registry

Pertinent Indiana Law

IC 16-42-27-2 = A provider may write a standing order for naloxone if all the following conditions are met. Requirements include:

- May be dispensed to person at risk, family member, friend, or other individual or entity in a position to assist when there is a reason to believe an individual is at risk of experiencing an opioid-related overdose
- Must call 911 immediately before or after administration

Pertinent Indiana Law

IC 16-42-27-2 = An entity must:

- Annually register with ISDH
- Provide education and training on the administration of the overdose intervention drug
- Provide drug addiction treatment information and referral to drug treatment programs

Law gives civil immunity to prescriber, pharmacist, individual or entity acting under this chapter

Pertinent Indiana Law

If a school stocks naloxone, they must use the ISDH Online Registry:

- Register annually with the Indiana State Department of Health as provider of naloxone
- Registry allows nonprofits, pharmacies, local health departments, addiction treatment facilities, correctional facilities, and other entities to register as providers of naloxone
- Entity registers as they are seeking to act under a standing order or prescription for an overdose intervention drug
- Entity must affirm they provide education and training to everyone the program serves
- Entity must have a referral to a drug treatment program that includes the use of medication for the treatment of opioid dependence

Items to Consider

School must have a policy, based on a signed provider standing order, which must include - who is allowed to administer a dose, under what circumstances, the type and amount of drug to administer, how the medication will be stored, and clearly defines who is responsible for the training

When NOT to use Naloxone

- Opioid use alone (without symptoms of ineffective breathing) is not an indication to give naloxone
- Other drug (non-opioid) overdoses will not respond to naloxone
- Other causes of respiratory depression should not be treated with naloxone

When TO use Naloxone

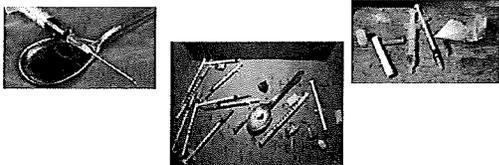
Person not responding AND has symptoms AND a documented risk factor:

- Person has symptoms of overdose (very slow or labored breathing and pinpoint pupils)
- Bystanders report drug use
- Drug paraphernalia found at scene
- Signs of injection of drugs are found on the skin "track marks"
- Person has a known and documented history of opioid use

Drug Paraphernalia



Drug Paraphernalia



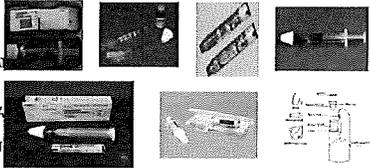
Items to Consider

Administration of naloxone can cause opioid withdrawal symptoms:

- Runny nose and sweating
- Nausea and vomiting
- Fast heart rate
- Shaking
- Agitation, irritability, restlessness, or confusion

Quick Review

- **DRAWN UP**
 - Glucagon
 - Versed
- **INJECTABLE**
 - Epinephrine
 - Glucagon
- **NASAL ADMINISTRATION**
 - Versed
 - Narcan
- **RECTAL ADMINISTRATION**
 - Diastat
- **MASK ADMINISTRATION**
 - Albuterol



Items to Consider for Stock Medication

- As with any of these emergency medications, it is a local decision on whether a school has all the right pieces in place in order to *stock* a standing order medication (medication not prescribed for a particular student and no IHP):
 - Needs assessment
 - Provider order
 - School policy
 - Appropriate training
 - Willing and competent staff

CONCUSSIONS

RETURN TO LEARN AND PLAY PROTOCOLS

Definition and Incidence

- Concussion is a type of traumatic brain injury
- Concussions are caused by a bump or blow to the head
- Signs and symptoms can show up right after the injury or may not appear or be noticed until days or weeks after the injury
- Past fall season concussions reported to IHSAA = 830 for football, 155 for girl's soccer, 94 for boy's soccer, then volleyball, basketball, wrestling, gymnastics, track, tennis, baseball, swimming, and golf

Signs and Symptoms of Emergency

- Headache that gets worse and does not go away
- Weakness, numbness or decreased coordination
- Repeated vomiting or nausea
- Slurred speech
- Looks very drowsy or cannot be awakened
- Have one pupil larger than the other
- Have convulsions or seizures
- Cannot recognize people or places
- Are getting more and more confused, restless, or agitated
- Have unusual behavior
- Lose consciousness (even a brief loss of consciousness should be taken seriously)

Emergency Medications

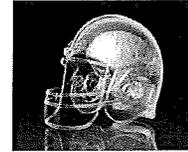
- No medications
- Monitor, follow return to learn/play protocol, refer to provider if symptoms return
- Current return to play protocol includes:
 - Light activity (10 min light jogging)
 - Moderate activity
 - Heavy, non-contact physical activity (sprinting)
 - Practice, in a controlled setting
 - Full game play

Pertinent Indiana Law

- IC 20-34-7
 - Educational forms sent to all students in grades 5-12 for all interscholastic sports
 - Pull from play for 24 hours and until signed release by health care provider for grade 5-12
 - Concussion certification course required for coaches in grades 5-12
 - Football coaches required to take a special course which contains concussion information, heat exhaustion, proper technique, and equipment fitting

Items to Consider

- Concussions are a hot topic nationally
- New research is occurring all the time
- Legislation has changed in 2012, 2014, 2015 and 2016
- More information can be found on the DOE Health Webpage



SUDDEN CARDIAC ARREST

DIAGNOSIS AND TREATMENT

Definition and Incidence

- Definition is a full cardiac arrest with no distinguishable pulse or breathing
- Majority are due to congenital heart defects
- Can also be caused by illness that causes an inflammation to the heart or after a direct blow to the chest
- Approximately 500 athletes die each year related to sudden cardiac arrest

Signs and Symptoms of Emergency

- There may not be any noticeable symptoms before a person experiences loss of consciousness
- Warning signs can include:
 - Complaint of chest discomfort, unusual shortness of breath, racing or irregular heartbeat, fainting or passing out
 - Athlete does not look or feel right and you are just not sure -- contact EMS
- Emergency signs
 - Any athlete who collapses during athletic competition
 - If a blow to the chest from a ball, puck, or other player precedes an athlete's complain of any of the warning signs

Emergency Medications

- AED and CPR
- Call EMS
- Follow school procedures for handling medical emergencies



Pertinent Indiana Law

- IC 20-34-8
- Educational information sent to students in grades 1-12 who participate in interscholastic sports
- Pull from play and notify parent; recommend seen by a health care provider
- Verbal permission must be followed by written parent permission within 24 hours

Items to Consider

- Ensure good documentation of actions, signs and symptoms, and communication with parents
- Have a policy regarding how many times a parent will be notified before a health care provider note will be required
- Sample documents are posted on the IDOE Health webpage

THANK YOU

ANY QUESTIONS?