Diabetes

Seizures

Food Allergies

Blood Borne Pathogens

Before I get started….

- Flu shots offered for staff
  - Sign up today
  - $14 = vaccine + supplies
  - Please pay when you come for your vaccine
  - Recommend for all – especially new teachers and staff.

CPR reminder

- 4pm class today in Mrs. Alexander's Home Ec room.
- All administrators and coaches required to take it.

Diabetes Education
What do
YOU
need to know about working with students with diabetes?

Here's the down and dirty!

Define Diabetes:

- Diabetes is a condition in which the pancreas *no longer produces enough insulin* or cells stop responding to the insulin that is produced, so that glucose in the blood cannot be absorbed in the cells of the body.
- Chronic hyperglycemia

Complications of DM

- Renal (kidney) failure, heart disease, stroke, and blindness.
- Approximately 90% of patients on renal dialysis are on it due to complications of uncontrolled diabetes

Types of Diabetes

- Type I
- Also known as insulin-dependent diabetes or juvenile diabetes.
- 3 in 1000 children have juvenile diabetes.

- Type II diabetes
- Most common in patients who are overweight and/or do not exercise.
- Counts for 3-5% of Americans under the age of 50 and 10-15% over 50.

Gestational diabetes

- Refers to women that acquire diabetes due to pregnancy. This usually resolves shortly after delivery however data shows that women that do acquire GD are more likely to have Type II at a later age.

Normal Blood Glucose Level

- 70- 126.
- 3 fasting blood glucose readings of 126 or above is indicative of diabetes.

Causes of Diabetes

- Heredity
- Virus triggered
- Lifesyle – High blood pressure, high cholesterol, obesity.

Symptoms of Diabetes

- ***Frequent urination***
- ***Excessive thirst***
- ***Blurred vision***
- Lethargy and hunger
- Sudden weight loss, slow wound healing, UTI's, gum disease

How is Type I treated?

- Type I:
  - Insulin – Long acting, fast acting; injection or insulin pump.
  - Lifestyle – Eat healthy, low carbohydrate food, blood glucose monitoring, exercise.
  - Frequent blood glucose checks prior to meals, at bedtime and as needed.

How is Type II treated?

- Oral medication
- *Lifestyle changes* - diabetic diet, exercise regularly, weight loss.
- Frequent blood sugar monitoring prior to meals and at bedtime.
- Sometimes insulin

Hyperglycemia v/s Hypoglycemia

Hyperglycemia – means blood glucose is too high

Hypoglycemia – means blood glucose is too low.

Symptoms of a hypoglycemic episode -Blood sugar too low

- "I feel shaky" or say "I'm dropping" or I'm low"
- Eyes will appear "glossy"
- Decreased attention span – response time will decrease
- Skin may be come pale and diaphoretic
- May complain of a headache
- Loss of consciousness

What is ***your*** responsibility when a student has these symptoms?

- Know your student.
- CHECK THE BLOOD GLUCOSE LEVEL!
  - Just because a student complains of hypoglycemic symptoms does not necessarily mean they are low.
- Do not send this student alone.
  - Risk of fainting.
- *Please do not hesitate to call me at ext. 1016 if you have concerns.*

…*your responsibilities*

- If blood sugar is too low (under 80), give them 15 grams carbs (½ of granola bar). If symptoms do not improve in 10 minutes, recheck blood sugar and repeat as needed.
- Try to follow up with a few grams of protein to prevent a low.
- If student loses consciousness, call the ambulance **first**…then call the parent.

Questions?

Seizures and Epilepsy

Here's the down and dirty on what you need to know.

Seizure Defined

- Seizure –
  - One or more episodes of disturbed brain activity that causes changes in attention or behavior.
  - Can be a single episode for unknown reason possibly triggered by acute injury, virus or high fever.

Seizures v/s Epilepsy

- Epilepsy –
  - A brain disorder in which a person has repeated seizures over time.
  - Occurs when permanent changes in brain tissue cause the brain to be excited.
  - Caused by Stroke, Dementia, Traumatic brain injury, abnormal development of the brain or blood vessels in the brain (Cerebral Palsy), viral infections, medications, illegal substance abuse.

3 Types of Seizures

- Absence (petit mal) seizure
- Generalized tonic-clonic (gran mal)
- Partial (focal)

Absence Seizure

- May not be noticed at all. Student will appear to be "spacing off".
- There will be no tremor.

- Confused with ADD frequently.

What do you do for a student having an Absence seizure?

- Observation.
- Time it.
- Do not try to "bring them to" by startling.
- Document it.
- They will come out of this on their own. They can last from a split second up to maybe 2 minutes.

Generalized tonic-clonic (grand mal)

- Forceful convulsion.
- Thrashes body, drooling, eyes rolling, heavy abnormal breathing pattern.
- Scariest.

What do I do when I see a Tonic-clonic seizure?

- Protect the patient….
  - Lower to the floor and roll to side, protect the head
  - Protect the airway
    - ROLL TO THEIR SIDE
    - Do NOT stick anything in the mouth.
  - Initiate CPR only when needed.
  - Activate EMS when necessary.
  - Time the seizure. Can last from a few seconds to a few minutes.
  - Notify the parent.
  - Documentation.

Partial (focal)

- When a seizure effects only certain parts of the brain.
- May not be as complex.
- Treat it the same.

Status Epilipticus

- This is when a person cannot come out of a seizure or has repeated, back to back seizures.
- Activate standard seizure precautions and treatment.
- Call EMS.

Triggers for seizures

- Medication needs adjusted
- Viral infections or fevers
- Temperature changes
- Loud noises such as sirens
- Startling
- Flashing or strobe lights
- Blunt injury
- Fatigue

Remember these things:

- With any seizure the most important things to remember are:
  - AIRWAY
  - SAFETY
  - DOCUMENTATION of time and symptoms.

Questions?

- I know you are dying to ask one.

Food Allergies
Anaphylaxis
and
EpiPens

Food allergy facts

- They can be as mild as a little stomach irritation.
- …or they can be severe enough to cause death.
- A person can develop an allergy to a food he/she has been eating all of their lives.

Common food allergies

- Peanuts, peanut oil
- Strawberries

- Bee stings are another big allergy that can lead to anaphylactic shock.

What happens during an allergic reaction? Step 1

- Food allergy is a hypersensitivity reaction, meaning that before an allergic reaction to an allergen in food can occur, a person needs to have been exposed previously, or "sensitized," to the food.
- At the initial exposure, the allergen stimulates lymphocytes (specialized white blood cells) to produce the IgE antibody that is specific for the allergen.

2nd step

- This IgE then is released and attaches to the surface of the mast cells in different tissues of the body.
- The next time the person eats that particular food, its allergen hones in on the specific IgE antibody on the surface of the mast cells and prompts the cells to release chemicals such as histamine.
- Depending upon the tissue in which they are released, these chemicals cause the various symptoms of food allergy.

When histamine is released, allergic symptoms can occur…

- Tingling or itching in the mouth.
- Swelling of the lips, face, throat, tongue or other body parts.
- Hives or itching
- Wheezing, congestion or trouble breathing, cough.
- Abdominal discomfort, nausea, vomiting or diarrhea
- Dizziness, lightheadedness or fainting

ANAPHYLAXIS

- A severe allergic reaction.
- This is an emergency.
- Shock can occur.

Treatment of Anaphylaxis

- EpiPen dose
- Activate the EMS – 309-867-4291.
- Remember your ABC's.
  - Airway
  - Breathing
  - Circulation

EpiPen

- What is it?
  - EpiPen is an auto-injection of epinephrine.
  - Epiniphrine is a chemical that narrows blood vessels and opens airways in the lungs. These effects can reverse severe low blood pressure, wheezing, severe skin itching, hives, and other symptoms of an allergic reaction.

What do you need to know about EpiPen?

- How to administer to a student that has been prescribed EpiPen….LET's TALK ABOUT THAT.
- ½ life of EpiPen is 2 ½ minutes!
- Can be used with any anaphylactic reaction – bee stings.

Questions?

Blood Borne Pathogens

- Refers to any disease or infection that can be transmitted through blood or *bodily fluid.*

Most common infections to spread

- MRSA (Methicillin-resistant Staphylococcus aureus)
- HIV/AIDS
- Hepatitis A, B, and C

Routes of Exposure

- Exposure of contaminated blood can reach you through the tiniest crack in dry skin or paper cut
- Sharing of needles
- Unprotected sex
- Blood transfusion

What is MRSA Methicillin-resistant Staphylococcus aureus

- Staph infection that has become resistant to methycillin (a type of Penicillin)
- Found in skin wounds and in nares
- Not just a nursing home infection anymore.

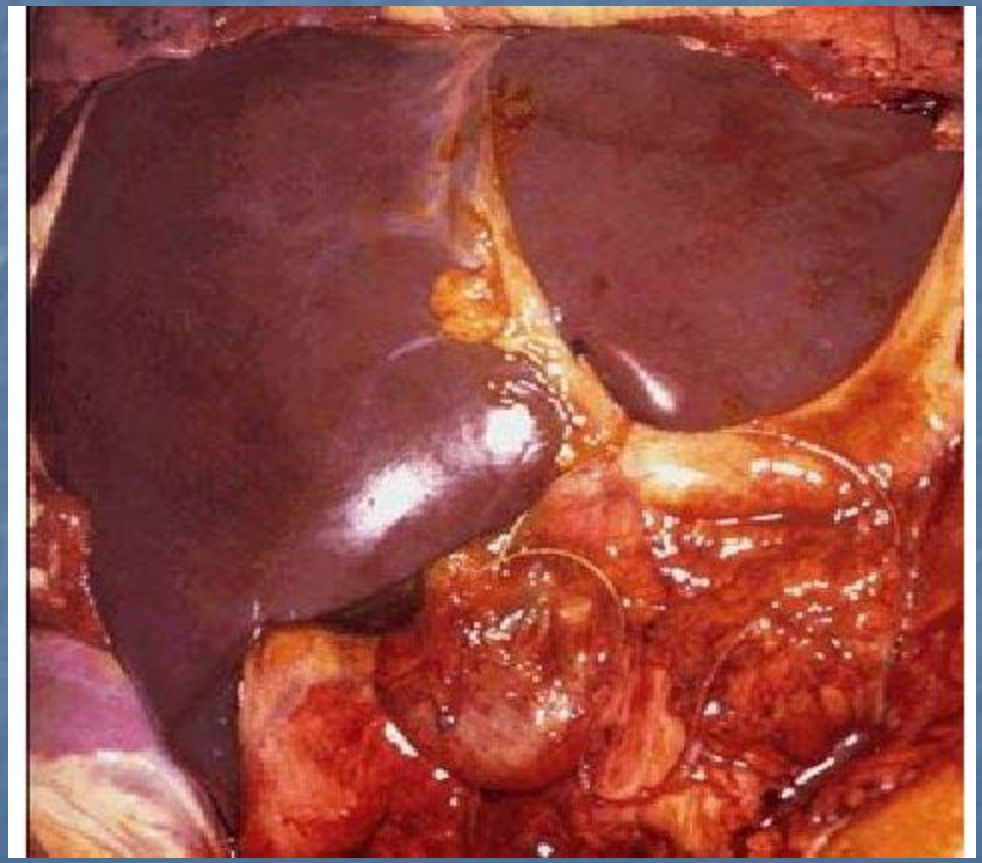
HIV/AIDS

- No cure
- No vaccine
- Transmitted through contaminated blood to blood contact, sexually, through blood transfusion and/or sharing of contaminated needle use.

Hepatitis

- Inflammatory viral disease of the liver.
- Once you get it, although self-limiting disease, symptoms may minimize over time, but you've *always* got it…..you can *always* transmit it.

Healthy liver



Cross section Healthy Liver

Liver infected with Hepatitis

Hepatitis A

- Hepatitis A -
  - Transmitted through contaminated food
  - Vaccine to prevent
  - Usually self- limiting and *symptoms* subside over time with little to no treatment

Hepatitis B

- Spread through blood to blood/blood to bodily fluid exposure
- Vaccine to prevent
- State law for employer to provide free of charge.
- Notify me if you've not have this.
- No cure.

Hepatitis C

- Usually spread through sharing of contaminated needle use.
- No vaccine

What is your role in prevention of the spread of blood borne pathogens?.....

ONLY 3 RULE!!!!!

Rule #1

- Good Hand washing

Rule #2

- If it isn't yours…..

Do NOT touch it!

Universal/Standard Precautions!!!

Rule #3

- Use Universal/Standard Precautions:
  - Treat *all* blood and bodily fluids like they are contaminated.

How do I not touch it?

- Call for help –
- Use gloves or other protective wear.
- Clean all known contaminated areas with 1:10 bleach solution.

Tips

- Taking gloves off inside out.
- Soak up pooled blood with cloth prior to spraying with bleach solution to prevent blood splattering into the eyes.
- Dispose of all contaminated material in OSHA approved Red Biohazard container/sharps container.
- Assume everyone has a blood borne pathogen that can make you very ill. You cannot see MRSA, HIV/AIDS or Hepatitis. You just have to treat everyone like they could potentially have one.

….tips

- Two words we don't usually get to use….
  - Assume – assume everyone has a blood borne pathogen
  - Selfish- It's your right to protect yourself. Be selfish about it.

Questions?

- Have a healthy and safe school year!