

Supplies Needed:

Caregiver is responsible for providing diabetes supplies and food to meet the needs of the student.

“It is strongly recommended that meter, strips, & lancet device be kept with student for use as needed.”

Exercise (such as PE or recess)

Exercise is important for all children, and children with diabetes are no exception. **Exercise helps with their blood sugar control and allows their insulin to work more effectively.** A person with diabetes should not be and does not want to be treated differently because of having diabetes.

- The student is not required to check blood sugar prior to exercise unless showing signs/symptoms of high or low blood sugar or is added to the treatment/intervention form or is requested by parent(s)/caregiver(s).
- If student exhibit signs of high &/or low blood sugar readings, please check blood sugar.
- If the student has a **low**, treat the **low**, make sure blood sugar readings are 100 and above (after treatment of the low) and send the student to PE. **Remember the student can now exercise.**
- The student’s blood sugar is **NOT** required to be 100 or above unless the blood sugar has been low prior to exercise.
- Fast acting carbohydrates should be made available at the site of exercise. Examples can include glucose tablets, glucose/cake gel, regular Gatorade, regular soda, and skim milk.
- Cheese & crackers, meat sandwich, etc. are examples of other snacks that can be given after returning the blood sugar to 100 or above.
- Student should have glucose meter and water always available. Increased water intake is recommended during exercise.
- Student should not exercise if moderate to large ketones are present or if student is ill with trace or larger ketones. (Ketones should be checked per the hyperglycemia algorithm, and anytime the child is not feeling well or vomiting)

Instructions for Medication Route/Monitoring:

Insulin Therapy

Injection

- See Treatment for Hyperglycemia/Hypoglycemia on pages 7 & 9.
- **Mealtime Dose** – See medication prescriber/parent authorization form, labeled “**meal dose**” for dosage and route. **This is always given for food.**
- **Correction Dose** – Use medication authorization form labeled “**correction dose**”, for blood glucose above the target number. Example: $(\text{Blood sugar}-150)/50$; Target blood sugar is 150
CORRECTION FACTOR DOSE SHOULD NOT BE GIVEN ANY CLOSER THAN 3 HOURS APART
 - If **NO** correction factor is needed at meal/snack time, **NO** correction factor can be given for high blood sugar, until it has been a **minimum of 2 hours** after the meal/snack dose.

SAMPLE CALCULATIONS



Order 1

- **Correction factor** = $(BS-120)/20$; use only if it has been **3 hours** since last correction dose
- **Meal ratio** = 1 unit per 7 grams of carbohydrates (plus correction factor if applicable)
- **Rounding** = round down to the nearest whole unit

Before lunch BS= 155 $(155 - 120) / 20 = 1.7$ correction dose for high BS
Carbohydrates to eat = 96 $96 / 7 = 13.7$ meal dose

Total units = 15.4 add the two totals together first before rounding
(After rounding down to the nearest whole unit from 15.4)

Total units to give = 15 units

Order 2

- **Correction factor** = $(BS - 150) / 125$; use only if it has been **3 hours** since last correction dose; the student received a correction dose at **9am** for high blood sugar reading
- **Meal Ratio** = 1-unit Novolog per 40 grams of carbohydrates (plus correction factor if applicable)
- **Rounding** = round to the nearest half unit

Before lunch BS = 215 at **11:00am** has not been 3 hours or greater; **cannot use correction**
Carbohydrates to eat = 20 $20 / 40 = 0.5$ meal dose

Total units = 0.5 for meal

Student will receive only the insulin for his/her meal only; it is too soon to give a correction dose.

Order 3

- **Correction factor** = $(BS - 150) / 100$; use only if it has been **3 hours** since last correction dose
- **Fixed dose** = 5-unit Humalog before lunch (plus correction factor if applicable)
- **Rounding** = round down to the whole unit

Before lunch BS = 322 $(322 - 150) / 100 = 1.7$ correction dose for high BS
Insulin for meal = 5 units 5 meal dose

Total units = 6.7 for meal

Total units to give = 6 units

- **If rounding stated** = round up to the nearest whole unit, then total units to give for this example is 7 unit.
-

Order 4

- **Correction factor only** = $(BS - 150) / 100$; use only if it has been **3 hours** since last correction dose.
- Use to correct high blood sugar (**mealtime and in between**); only if it has been **3 hours or greater since last correction dose**.
- At lunch time BS = 230; $(230 - 150) / 50 = 1.6$ rounding down to the nearest whole unit

Total units = 1 unit to give

Rounding

Round to the nearest half unit	Round down to the nearest half unit	Round up to the nearest half unit
0.1 – 0.4 = Round down to the whole unit 0.5 = Keep dose as is 0.6 – 0.9 = Round up to the whole unit	0.1 – 0.4 = Round down to the whole unit 0.5 = Keep dose as is 0.6 – 0.9 = Round down to the half unit	0.1 – 0.4 = Round up to the half unit 0.5 = Keep dose as is 0.6 – 0.9 = Round up to the whole unit
Round to the nearest whole unit	Round down to the nearest whole unit	Round up to the nearest whole unit
0.1 – 0.4 = Round down to the whole unit 0.5 – 0.9 = Round up to the whole unit	0.1 – 0.4 = Round down to the whole unit 0.5 – 0.9 = Round down to the whole unit	0.1 – 0.4 = Round up to the whole unit 0.5 – 0.9 = Round up to the whole unit

Instructions for CGM Monitoring:

If student has a Continuous Glucose Monitoring (CGM) System that uses the students cell phone as the receiver for the CGM. A student wearing a must carry his/her smart device on self.

- **Dexcom G6 and G7 CGM** readings **can** be used for dosing with insulin per FDA approval. (ex. At mealtimes, or to correct hyperglycemia, unless the parent states they require a finger stick blood glucose). If the symptoms of the student do not correspond with the reading, then a finger stick is needed. **If the CGM reading is greater than 300 or less than 70 the reading should be confirmed with a blood glucose check, using the student's meter, and treated according to the instructions on the pathway.**
- **Freestyle Libre 2 and Libre 3** readings **can** be used for dosing with insulin per FDA approval. (ex. At mealtimes, or to correct hyperglycemia, unless the parent states they require a finger stick blood glucose). If the symptoms of the student do not correspond with the reading, then a finger stick is needed. **If the CGM reading is greater than 300 or less than 70 the reading should be confirmed with a blood glucose check, using the student's meter, and treated according to the instructions on the pathway.**
- **Medtronic with the Medtronic Guardian CGM** readings are **not** to be used for treatments decisions during mealtimes, or to correct hyperglycemia, per FDA. The readings can be used for times that do not require treatment with insulin (ex. Before leaving school, before PE, unless the parent states they require a finger stick blood glucose). If the symptoms of the student do not correspond with the reading, then a finger stick is needed. (Note: insulin pumps in Auto Mode will self-adjust basal insulin) **If the CGM reading is greater than 300 or less than 70 the reading should be confirmed with a blood glucose check, using the student's meter, and treated according to the instructions on the pathway.**

Instructions for Pump Therapy

- See Treatment for Hyperglycemia / Hypoglycemia on pages 5, 6, & 8.
- Correction dose can be used every 2 hours as needed when given through an insulin pump because of the programmed feature of active insulin time.
- **For pump failure or loss of infusion site. (Remove insulin pump and the student will need to resume insulin injections by syringe or pen):**
 - Independent students with supplies may reinsert infusion set.
 - Recheck blood glucose in 2 hours or next scheduled time, whichever comes first.
 - **Notify caregiver(s) so long-acting insulin can be administered. (such as Lantus, Tresiba, Basaglar, etc.)**
 - **If you cannot reach the caregiver(s), suspend and remove the pump and begin manual insulin injections by syringe or pen.**
 - The rapid acting insulin may be administered by syringe injection for insulin to carbohydrate ratio and correction factor doses using the pump prescriber authorization form.
 - **Remember you must wait 3 hours between correction dose administrations while on injections but give meal dose as scheduled.**
 - Student does not need to go home unless has moderate to large ketones and/or shows signs or symptoms of illness.

Instructions for InPen Device

- See Treatment for Hyperglycemia/Hypoglycemia on pages 7 &9..
- **The dose the InPen App recommends is calculating the insulin on board so it may or may not match the same dose if you calculate it out.**
- **Mealtime Dose** – See medication prescriber/parent authorization form, labeled “**meal dose**” for dosage and route. **This is always given for food.** Verify the doses on the medication Prescriber form is the same doses that are in the dose setting in the app. Enter the amount of carbohydrates and the current blood sugar in the InPen app. This will calculate the recommended dosing for that meal.
- **Correction Dose** – Use medication authorization form labeled “**correction dose**”, for blood glucose above the target number. Verify that the doses match the correct doses on the medication authorization form and the dose settings in the app.
- **CORRECTION FACTOR DOSE SHOULD NOT BE GIVEN ANY CLOSER THAN 2 HOURS APART IF USING THE DOSING SUGGESTION FROM THE INPEN APP THAT INCLUDES SUBTRACTING INSULIN ON BOARD**
 - If **NO** correction factor is needed at meal/snack time, **NO** correction factor can be given for high blood sugar, until it has been a **minimum of 2 hours** after the meal/snack dose.

Hyperglycemia Insulin Pump

If blood glucose is greater than 300mg/dL then check for ketones

Check infusion set, site, and pump for kinks, leakage, or failure (if ketones present)

- For pump failure or bad pump site contact family
- If unable to reach family, then suspend/remove insulin pump and start manual insulin syringe injection pathway.
- Refer to insulin pump Prescriber Authorization form for dosing if insulin pump removed (*Correction factor given every 3 hours per pen/syringe pathway)

Ketones Negative

1. Administer correction factor by insulin pump.
2. Return to class with sugar free/caffeine free fluids.
3. Resume normal activities.
4. Recheck blood glucose and ketones in 2 hours. Give a correction factor bolus if needed.
5. If ketones present with recheck then follow appropriate guidelines

Ketones Present without Nausea/Vomiting

Ketones Present (Trace/Small) without Nausea/Vomiting

1. Administer correction factor by insulin pump.
2. Return to class with sugar free/caffeine free fluids.
3. Resume normal activities.
4. Recheck blood glucose and ketones in 2 hours. Give correction factor bolus if needed.
5. If ketones present with recheck then follow appropriate guidelines

Ketones Present (Moderate/Large) without Nausea/Vomiting

1. Remove insulin pump.
2. Administer correction factor by pen/syringe injection rather than with pump.
3. Student will need to change insulin pump infusion set, site/pod and refill reservoir/pod with insulin. If student is not marked independent in care, then contact family.
4. Return to class with sugar free/caffeine free fluids.
5. No physical activity
6. Recheck blood glucose and ketones in 3 hours.

Ketones Present with Nausea/Vomiting

1. Remove insulin pump.
2. Correction dose of insulin by syringe/pen injection
3. Student will need to change insulin pump infusion set, site/pod, and refill reservoir/pod with insulin. If student is not marked independent in care, then contact family.
4. Call parents. Child should be sent home.
5. If unable to reach parents, Call Diabetes doctor on call (205-638-9107) and request a sick day page.
6. If you do not receive a callback within 15 minutes, call back to office as above or call (205-638-9100) and ask for the Diabetes doctor on call.

- Student shall be permitted to have access to water, by keeping a water bottle in his/her possession at his/her desk, or by allowing student unrestricted access to drinking fountain.

Student is not to miss class by sitting in the nurses' office or be sent home unless vomiting or feeling poorly

iLet Bionic Pump Ketone Action Plan



Children's
of Alabama

iLet Bionic Pump supplies – Keep these supplies with you at all times

- Glucose meter and strips
- Urine ketone strips or blood ketone meter strips
- Extra CGM (continuous glucose monitoring) sensor
- Extra infusion set and cartridge
- Insulin vial and syringe or insulin pen and pen needle

When to test your blood glucose and ketones:

- You have nausea, vomiting, or diarrhea
- You think your infusion set is not working
- CGM glucose has been greater than 300mg/dL for 90 minutes
- CGM glucose is greater than 400 mg/dL

Green Zone

- Urine ketones are negative

OR

- Blood ketones are less than 0.6 mmol/L

Make sure your iLet is charged, has insulin, and is displaying CGM values. Infusion set is in place and not leaking

Continue to monitor you blood glucose.

If it is still high after 90 minutes, check ketones again.

Yellow Zone

- Urine ketones are trace – moderate

OR

- Blood ketones are 0.6 – 2.5 mmol/L

Change your iLet infusion set.

Drink water.

Recheck blood glucose and ketones in 90 mins.

If blood glucose is less than 180 mg/dL and ketones are in the **GREEN ZONE**, there is nothing else to do.

If blood glucose is less than 180mg/dL and Ketones are the same or improved, check blood glucose and ketones in 90 minutes.

After 3 ketone checks, if blood glucose is less than 180mg/dL and ketones are trace, there is nothing else to do.

If blood glucose is greater than 180mg/dL and ketones are **NOT** in the **GREEN ZONE**, go to **RED ZONE**

Red Zone

- Urine ketones are large

OR

- Blood ketones are 2.5 mmol/L or higher

CALL YOUR HEALTHCARE PROVIDER IMMEDIATELY

If your healthcare provider has told you to take an insulin injection, follow the steps below:

Disconnect from the iLet at the time of the injection.

Give the injection of rapid acting insulin as instructed by your healthcare provider.

Drink water.

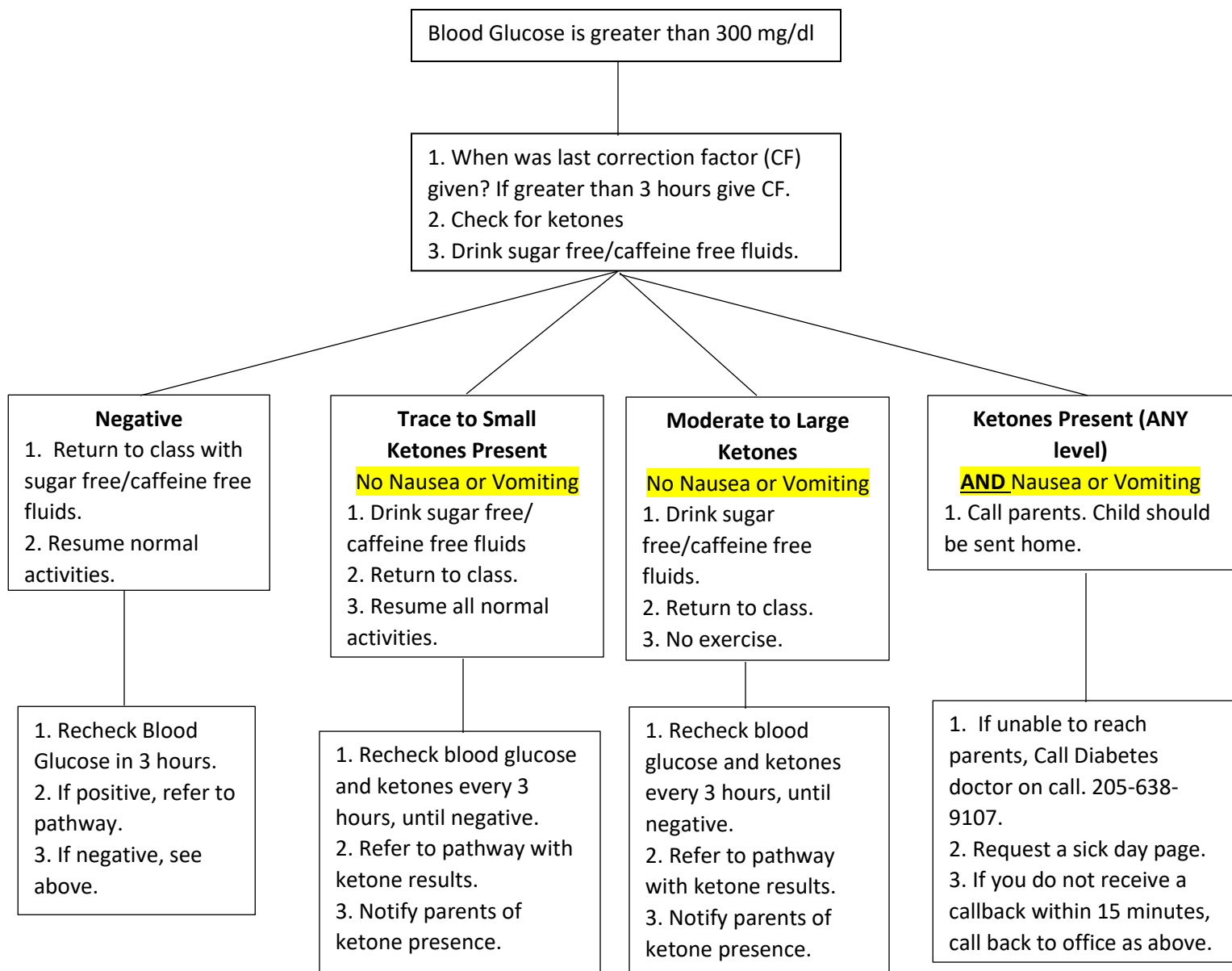
Recheck blood glucose and ketones in 90 minutes.

If blood glucose is less than 180mg/dL and ketones are in the **GREEN ZONE**, change the iLet infusion set and reconnect to the iLet.

If blood glucose is greater than 180mg/dL and ketones are **NOT** in the **GREEN ZONE**, **call your healthcare provider, go to the emergency room, or call 911.**

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Hyperglycemia Pen/Syringe Injection

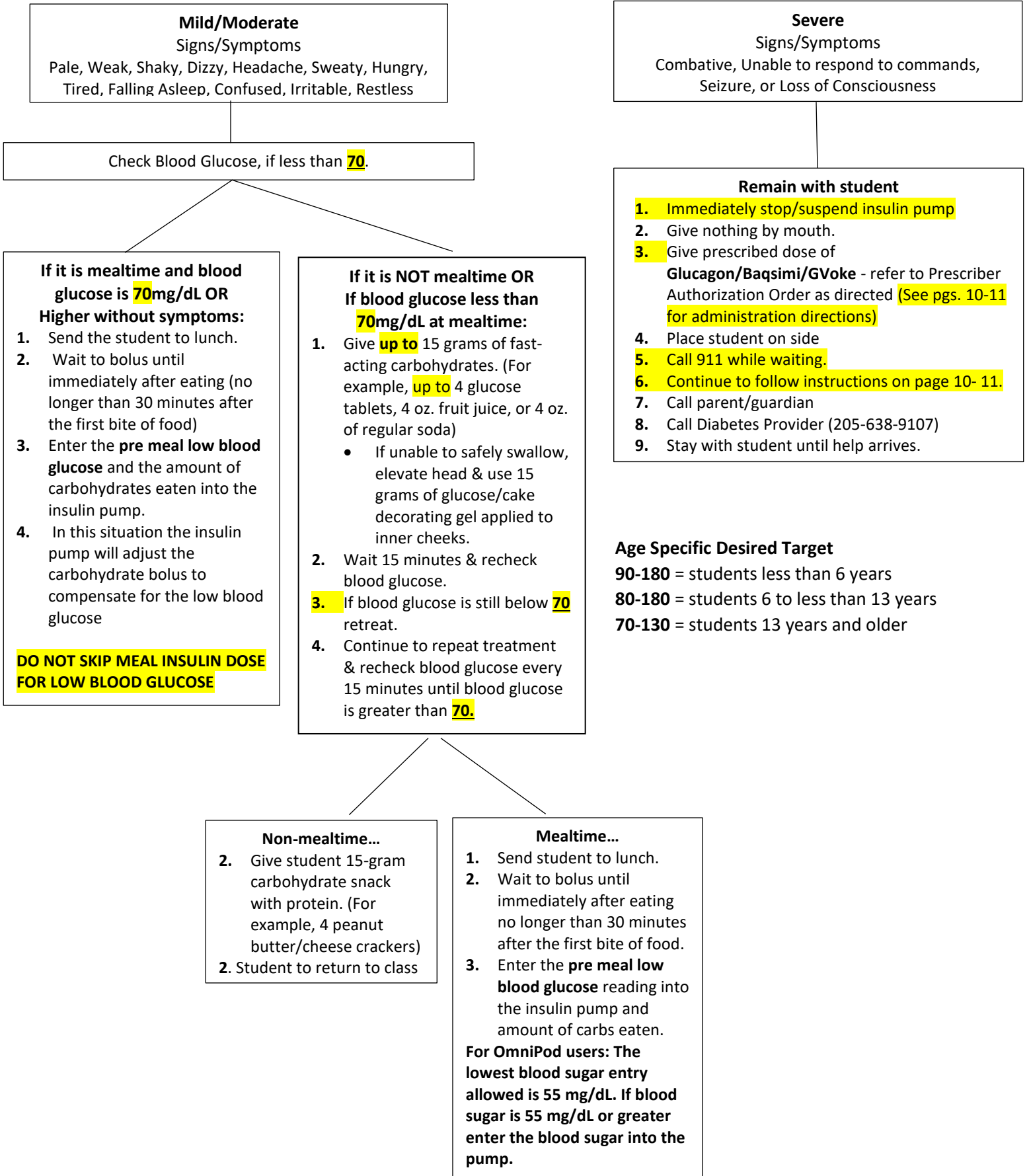


- Student shall be permitted to have access to water, by keeping a water bottle in his/her possession at his/her desk, or by allowing student unrestricted access to drinking fountain.

Student is not to miss class by sitting in the nurses' office or be sent home unless vomiting or feeling poorly.

*****The ADA recommends treating Hypoglycemia for blood sugars less than 70mg/dL using up to 15grams of fast acting carbohydrates.*****

Hypoglycemia Insulin Pump

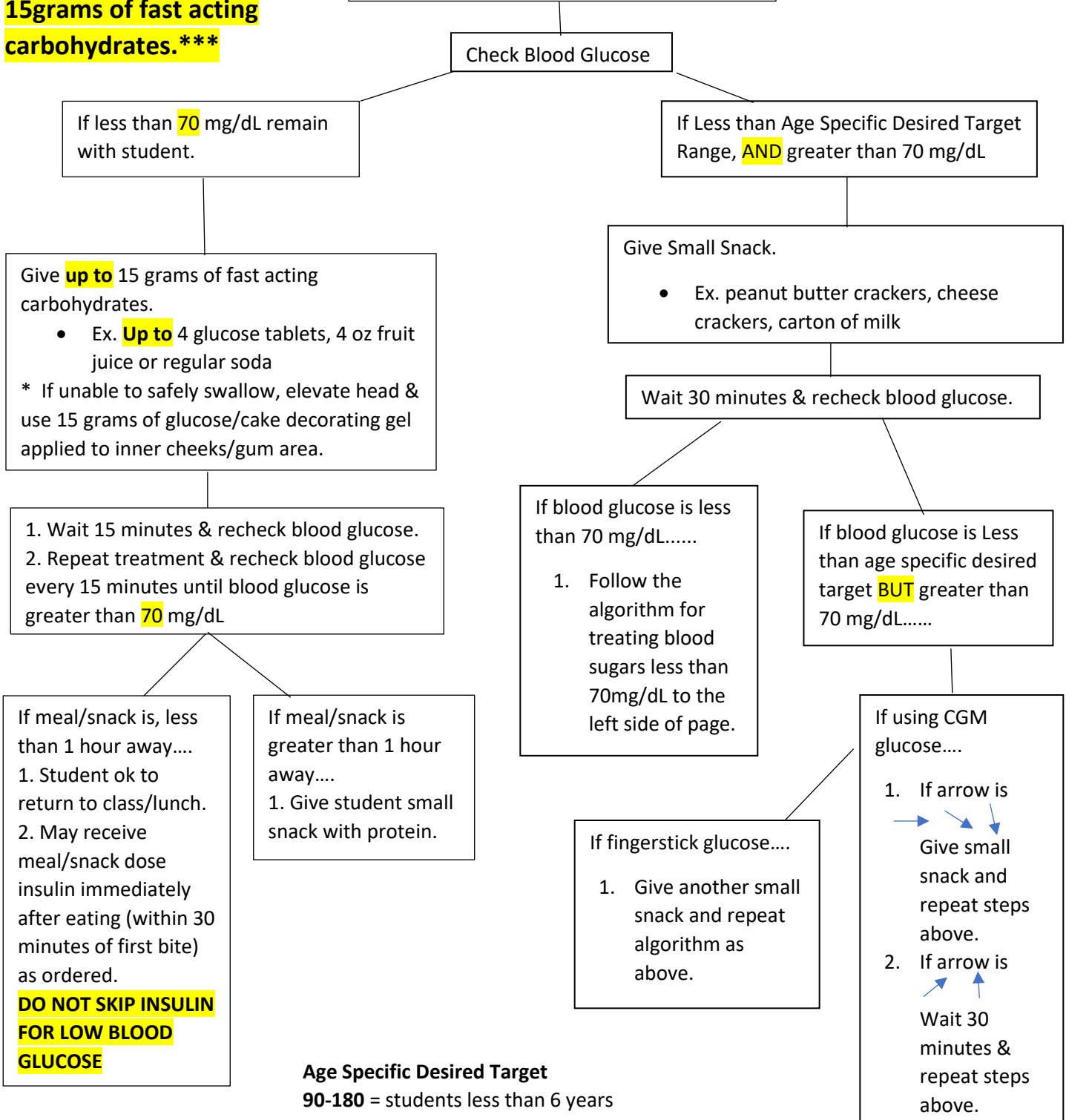


Age Specific Desired Target
90-180 = students less than 6 years
80-180 = students 6 to less than 13 years
70-130 = students 13 years and older

Hypoglycemia Pen/Syringe Injection

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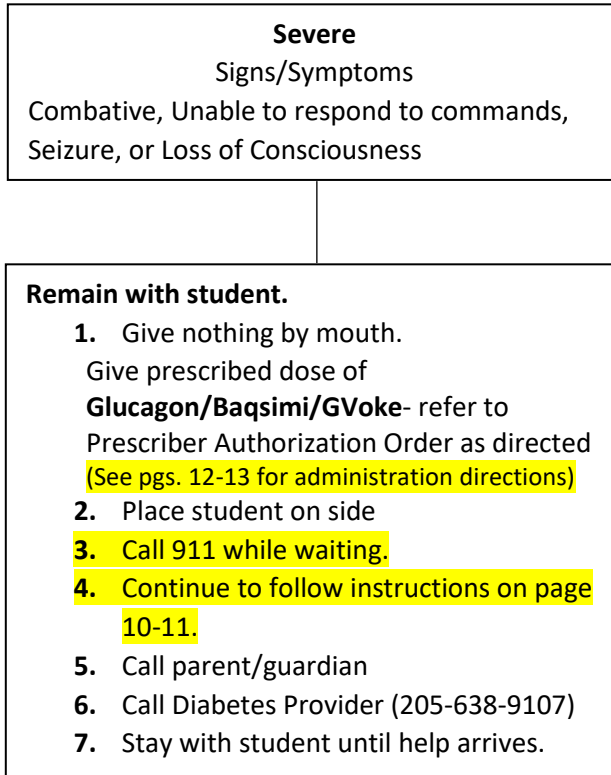
Mild/Moderate Signs/Symptoms
Pale, Weak, Shaky, Dizzy, Headache, Sweaty, Hungry, Tired, Falling Asleep, Confused, Irritable, Restless



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Emergency Medication for Severe Hypoglycemia in the School Setting

For Use in Case of Severe Low Blood Sugars (Hypoglycemia)

Symptoms for Use:

- Combativeness
- Inability to swallow.
- Disorientation
- Seizures
- Loss of consciousness

Administer one of the following ordered emergency medications:

Steps for administering glucagon/glucagen:

1. Remove the plastic caps/covers from the syringe and the vial.
2. Inject all the sterile water from the syringe into the small vial of glucagon/glucagen powder/pill. **Roll** until pill is fully dissolved.
3. Once the solution is clear, draw out (also refer to medication prescriber authorization form)
 - a. 0.5mg into the syringe = ½ ml or the first line you see on the syringe when it is inverted if the student is 44 pounds or less.
 - b. 1mg into the syringe = 1ml or the second line you see on the syringe when it is inverted if the student is greater than 44 pounds
4. Inject glucagon/glucagen in upper/outer thighs, or upper arms, or buttocks.
5. Turn the child on his/her side and check blood sugar.
6. Wait 15 minutes and assess signs of improvement. **Call the 911 while waiting.**
7. Recheck blood sugar every 15 minutes until blood sugar returns to normal or paramedics arrive.

Steps for administering Baqsimi:

1. Remove the shrink-wrap by pulling on the red stripe.
2. Open the lid and remove the device from the tube.
3. Hold the device between fingers and thumb. Do Not push plunger yet.
4. Insert tip into one nostril until fingers touch the outside of the nose.
5. Push Plunger firmly all the way in. Dose is complete when the Green Line disappears.
6. Turn the child on his/her side and check blood sugar.
7. Wait 15 minutes and assess signs of improvement. **Call the 911 while waiting.**
8. Recheck blood sugar every 15 minutes until blood sugar returns to normal or paramedics arrive.

Steps for administering GVoqe Pre-filled Syringe:

1. Pinch the skin at the injection site and keep pinching for the entire injection.
2. Insert the needle into the skin at a 90° angle without touching the plunger.
3. Push the Plunger down as far as it will go to inject all the liquid into the skin. Push the plunger quickly.
4. Turn the child on his/her side and check blood sugar.
5. Wait 15 minutes and assess signs of improvement. **Call the 911 while waiting.**
6. Recheck blood sugar every 15 minutes until blood sugar returns to normal or paramedics arrive.

Steps for administering GVoke Hypo Pen:

1. Pull red cap off.
2. Push yellow end down on skin and hold 5 seconds. Window will turn red.
3. Administer into upper arm, stomach, or thigh.
4. Turn the child on his/her side and check blood sugar.
5. Wait 15 minutes and assess signs of improvement. **Call the 911 while waiting.**
6. Recheck blood sugar every 15 minutes until blood sugar returns to normal or paramedics arrive.

Follow the steps below when the student responds to treatment, becomes conscious, and more cooperative:

1. Offer 4 oz. of regular soda, regular Gatorade, or juice. Student may only tolerate sips of liquid at this time.
2. Check the blood sugar if a meter is available.
3. Offer a snack or let the child go to lunch for a full meal (with supervision from an adult) if not nauseated or vomiting.
4. Notify the Children's of Alabama (COA) Diabetes Team at (205) 638-9107 or toll free 1-877-276-6850 and ask for the diabetes doctor on call or the diabetes educator.
5. Recheck the blood sugar in 30 minutes to 1 hour and continue to follow MD instructions received.
6. Call the parent/caregivers ASAP.
7. Instruct the parent/caregivers to call the student's diabetes doctor.

Plan for Athletes with Diabetes

“Our plan is to ensure safe physical activity for students with diabetes.”

Student: _____

Sport: _____ Coach/Trainer: _____

If a complete sport physical is needed, please obtain from his/her Primary Medical Doctor/Nurse Practitioner.

Prior to the beginning of the sports season the school nurse will:

- Meet with the coaches and/or athletic trainers to discuss the emergency plan.
- Provide the coach and trainer with a diabetes emergency kit containing:
 - Glucose/cake gel
 - Glucose tablets
 - Juice box / Gatorade or other sports drinks
 - Cheese crackers
 - Copies of the student health plan, emergency plan, and glucagon orders
 - **Contact the family to refill supplies.**
- Confirm that EMS can administer glucagon/glucagen and they carry it on their trucks (parents can administer glucagon/glucagen if present)

Prior to practice/game/event:

- Many students with diabetes may change his/her insulin dose on days he/she anticipates a practice/game/event. Notifying the parents of scheduling changes (extra practices or cancellations) as soon as possible helps the students (and parents) determine insulin needs.
- The student will be informed by the coach the location of the diabetes kit, encourage the student to stop the sport if he/she feels “low” and need to check his/her blood sugar or have a snack.
- The nurse will review with the student expectations for participating in sports and review the emergency procedures.
- The student should have a means of signaling the coach/trainer if he/she needs to leave the playing field.
- The student will check and record blood sugars prior to practice/game/event.
 - Student will have a snack for blood sugars less than 100.
 - Student will check for ketones for blood sugars greater than 300.
 - For negative, trace, or small ketones with no signs of illness, drink sugar free fluids and participate in practice/game/event.
 - If moderate to large ketones or signs of illness are present the nurse and parent will be notified. The student will not participate in practice/event/game.

After the practice/game/event:

- The student will check blood sugar at the end of the practice/game/event and will treat for a low blood sugar and have a snack for blood sugars less than 90 prior to leaving the practice/game/event.
- Students are not allowed to drive with a blood sugar less than 90.
- **Note: If student has a history of severe hypoglycemia following exercise, we strongly recommend having blood sugar greater than 100 prior to driving.**

Emergency Plan: (see actual plan for treating hypoglycemia pages 6 & 9)

- If the student is **awake** and **able to swallow** – he/she will check his/her blood sugar and treat accordingly with a quick acting glucose followed by a snack.
- For severe hypoglycemia (combative, loss of consciousness, or seizures) – the coach will activate EMS, apply glucose/cake gel to the inner cheek/gum area per hypoglycemia pathway. If unconscious, position the student on his/her side and then apply gel. Monitor the student until paramedics arrive.
- The paramedics will check the blood glucose and administer glucagon according to their protocol and the MD orders.

The school nurse will be notified of all incidences of severe hypoglycemia.

If parents are present at an athletic event or practice and severe hypoglycemia occurs, parent may immediately administer glucagon/glucagen.

Transportation by School Bus

It is important for the student with diabetes to take food with him/her on the bus. If the student feels low, he/she must be allowed to treat the low with fast acting carbohydrates, followed by long-acting carbohydrate with protein.

- If the student has an afternoon snack scheduled, and it is not time for the snack, please allow the student to carry his/her snack on the bus.
 - Student will need his/her snack, if scheduled, and fast acting carbohydrates for treating **lows** prior to boarding the bus. (Review pages 8 & 9 for examples of fast and long-acting carbohydrates)
 - Parents will provide this snack, as well as a copy of the student's daily schedule listing meal and snack times.

Check blood sugars as ordered by the provider, if the student feels low, signs/symptoms of hypoglycemia noted, and/or asked by the caregivers. Please ensure that the student's blood sugar is **70** or above or less than **350** with no ketones or vomiting present before boarding the bus with.

If student is:

- **70mg/dl or below**
 - Treat as described on pages 8 & 9 and notify parent(s)/caregiver(s)
 - If blood sugar is greater than 70, 15 minutes after treatment, place on bus.
 - If blood sugar is less than 70, 15 minutes after treatment, continue to follow hypoglycemia pathway and arrange alternate transportation with parent(s)/caregiver(s)
- **71mg/dl – 350mg/dl**
 - Allow student to board the bus.
- **Above 350mg/dl with no ketones, no vomiting, and feeling well.**
 - Student may ride the bus.
- **Above 350mg/dl, with urine ketones, and feeling well.**
 - Treat as described on pages 5 & 7 and notify parent(s)/caregiver(s)
 - Student may ride the bus unless that bus ride is longer than 1 hour in duration, otherwise alternate transportation should be arranged.
- **Above 350mg/dl, with urine ketones, and not feeling well.**
 - Treat as described on page 5 & 7.
 - Notify parent(s)/caregiver(s) and arrange for alternate transportation.

FYI BLOOD GLUCOSE MONITORS

I have included the ranges for the meters we have and use below. If you receive a “HI” on one of the meters listed below, plug that number into your formula for the correction factor, or use for dose on sliding scale.

<u>Meter</u>	<u>Range</u>	
	If the meter reads “LO”	If the meter reads “HI”
Accu-chek Nano/Connect	20	600
Accu-chek Aviva	10	600
Accu-chek Guide	10	600
Accu-Chek Guide Me	20	600
Contour	10	600
Contour Next EZ & Next & Next ONE	20	600
Contour USB	20	600
Freestyle	20	500
Freestyle Freedom	20	500
Freestyle Lite	20	500
OneTouch Ultra Mini	20	500
OneTouch Ultra 2	20	600
One Touch Verio IQ	20	600
One Touch Reflect	20	600
Relion	20	600
True Metrix	20	600