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| Barbara Davis Center |
| Diabetes Management |
| Day One of New Onset |

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# Jean Bessey, MPH, RD, CDE

# Cristy Coveyduck, BSN, RN

# Theresa Cox, BSN, RN, CDE

# Ashlee Ernst, BSN, RN

# Tonya Jenkins, RD, CDE

# Betsy Otten, BSN, RN

# Susie Owen, RN, CDE

# Graciela Tellez, RN

# Debbie Trujillo, BSN, RN, CDE

# Leah Wyckoff, MS, BSN, RN, NCSN

Basics of Diabetes Management

# Blood Glucose Monitoring

### Wash hands with soap & water, dry well

### Change lancet once a day

### Protect meter and strips from extreme temperatures

### Keep accurate date/time on meters

### Bring both meters to appointments

### Check blood glucose BEFORE eating

### Log blood glucose in log book, sheet, or app

# Insulin/Injections

### Protect insulin from extreme temperatures

### Refrigerate unused insulin

### Do not use pen or vial longer than 30 days

### Use new pen needle/syringe with each injection

### Prime pen needles with 2 units before every injection

### Rotate injection sites

# Hypoglycemia See Hypoglycemia Action Plan Page 3

# Ketones

### Test ketones with ANY illness REGARDLESS of blood glucose level

### Test ketones when blood glucose is >300 twice in a row

### Test with any nausea/vomiting/stomachache

### Call Barbara Davis Center for any ketones that are moderate or large on urine ketostix or >1.0 on ketone blood meter

### Push oral fluids: 1oz per year of age per hour if ketones are present

# FOR URGENT CONCERNS such as sick day management, severe hypoglycemia, or consistent blood glucose <100 or >350 call Barbara Davis Center (303)724-2323 at ANY TIME. After 4:45pm or weekends/holidays you will reach the after-hours message/answering service that will page the on call doctor.

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| LOW BLOOD GLUCOSE (HYPOGLYCEMIA) ACTION PLAN**BLOOD GLUCOSE <70 mg/dL**Causes include*: too much insulin, too few carbs, exercise, illness, excitement* |
| IF YOU SEE THIS: | FOLLOW THIS ACTION PLAN: |
| Signs of MILD low blood glucose Mental Status: ALERT* Headache
* Sweating/pale
* Shakiness/dizziness
* Tired/falling asleep
* Difficulty concentrating
* Poor coordination
* Behavior changes: irritability or sadness
 | 1. Check blood glucose
2. If <70 mg/dL Provide 7.5 – 15g of fast sugar (i.e. 2-4oz juice, 2-4 glucose tablets)
3. After 15 minutes, re-check blood glucose
4. If <70 mg/dL again, repeat fast sugar, wait, re-check. Repeat these steps until BG is >70 mg/dL
5. Follow with 7.5 – 15g complex carb snack (with carbs & protein)
6. DO NOT GIVE INSULIN FOR THESE CARBS
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| Signs of MODERATE low blood glucoseMental Status: DISORIENTED* Severe confusion
* Disorientation
* May be combative
* Difficulty speaking/swallowing
* Difficulty balancing/walking
 | 1. Put child in safe position and check blood glucose
2. If <70 mg/dL, keep head elevated, give 7.5 – 15g fast sugar gel (honey if >1yr old) between lips/cheeks and gums
3. After 15 min re-check blood glucose
4. If <70 mg/dL again, repeat fast sugar (gel if still disoriented, sugar fluids if alert), wait, re-check. Repeat these steps until BG is >70 mg/dL
5. Follow with 7.5 – 15g complex carb snack (with carbs & protein)
6. DO NOT GIVE INSULIN FOR THESE CARBS
7. **CALL THE BDC BEFORE NEXT INSULIN DOSE**
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| Signs of SEVERE low blood glucoseMental Status: UNCONSCIOUS* Unresponsive
* Seizure activity
* Unable/unwilling to take juice or gel
 | 1. **Call 911**, place child in safe position, and check blood glucose
2. If <70 mg/dL give glucagon
3. If no response in 10 min., re-check blood glucose and repeat dose of glucagon
4. Wait, re-check and repeat steps until blood glucose >70 mg/dL
5. If alert but <70 mg/dL give 7.5 – 15g sugar fluids
6. Once alert and blood glucose >70 mg/dL, encourage complex carb food
7. May experience nausea, vomiting, headache, reoccurrence of low blood glucose
8. **CALL BDC FOR INSULIN DOSE ADJUSTMENTS**
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| KETONE (HYPERGLYCEMIA) ACTION PLAN**Ketones: chemicals made when body fat is used for energy instead of glucose**Causes include*: insulin not working well in the body (pre-diagnosis, illness, bad insulin), or insulin is omitted (sugar rises in blood but cannot go into cells for energy)* |
| IF YOU SEE THIS: | FOLLOW THIS ACTION PLAN: |
| Symptoms of high blood glucose, stomach ache, nausea, vomiting, feeling ill | * Test urine (Ketostix) or blood ketones (Precision Xtra meter & purple test strips)
* **Urine**: negative | **Blood**: <0.6 mmol/L
	+ No action required
* **Urine**: trace/small | **Blood**: 0.6 – 1.0 mmol/L
	+ Drink extra water (1oz/yr of age/hr)
	+ Re-test in 2 hours
	+ Repeat as needed until ketones are negative or <0.6 mmol/L
* **Urine**: moderate | **Blood**: 1.0 – 1.5 mmol/L
	+ Drink extra water (1oz/yr of age/hr)
	+ Call BDC for insulin dosing
	+ You will need extra rapid acting insulin
	+ Repeat every 2 hours until ketones are negative or <0.6 mmol/L
* **Urine**: large | **Blood**: >1.5 mmol/L
	+ Call BDC for insulin dosing immediately!
	+ Drink extra water (1oz/yr of age/hr)
	+ You will need extra rapid acting insulin
	+ Repeat every 2 hours until ketones are negative or <0.6 mmol/L
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| If blood glucose has been >300 mg/dL x 2 in a row (pump >240 mg/dL fasting) |
| Every 4hr minimum during ANY illness REGARDLESS of blood glucose value  |
| **Labored breathing, severe vomiting, lethargic** | **GO DIRECTLY TO EMERGENCY ROOM!*** **RISKS OF DOING NOTHING:**
* **Becoming extremely ill!**
* **Hospitalization with severe complications!**
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Quick Guide to Insulin Pen

##### Wash hands.

##### Remove pen cap, wipe end with alcohol.

##### Peel paper off pen needle cap. Screw pen needle onto the pen snugly.

##### Remove larger needle cap and keep.

##### Remove smaller needle guard and discard.

##### To prime the needle (clear air out of pen needle):

##### Turn the dose dial to 2 units

##### Hold pen upright, push bottom end of pen and squirt insulin through tip of needle insulin. If no insulin is seen- repeat steps **a** & **b** as many times as needed.

##### Gently tap off excess insulin from the pen needle.

##### To set the dose of insulin, turn the dial clockwise until the dose number is seen in the dose dial window.

##### If needed, clean skin at injection site with alcohol wipe. Allow time to dry.

##### Hold (or lift)\* the skin of the site with one hand.

##### Grasp the pen between palm and fingers with thumb positioned above the injection button. Ensure that thumb is not on the injection button until the needle has been inserted into the skin. Ensure that the dose dial window is visible prior to and during injection

##### Insert the needle quickly but gently into the skin at a 90 degree angle. The needle should be all the way into the skin but not pushed forcefully enough to dimple the injection site.

##### Use thumb to push the injection button down slowly until all insulin is in the tissue. Ensure that the dose dial has returned to zero. This indicates all insulin has been injected.

##### Count to 5 or 10 seconds \*\* to allow insulin to distribute within the tissue.

##### Release the lift or the hold, and remove the needle from the tissue

##### Put fingertip lightly on injection site to check for insulin leak-back.

##### Carefully replace large needle cap and unscrew the needle from the pen.

##### Dispose of pen needle in a sharps container

##### Replace insulin pen cap

##### Log dose in log book.

\* The “lift” is used when pen needles are 8mm in length. These are slightly longer needed, so a lift in the skin is needed to ensure effective insulin injection and absorption. The “hold” should be used for 4mm or 5mm pen needles. A hold is when the injection site is being gently held but not lifted or pinched.

\*\* The 10 second count is used when using a 4mm or 5mm length needle pen. These pen needles are short and need to stay in the tissue longer to allow for effective insulin absorption. The 5 second count is used when using the longer, 8mm, pen needles.

Items for a School Diabetes Care Kit

### Health care provider orders

### Glucose testing meter

### Glucose test strips (at least 50)

### Lancets

### Alcohol wipes

### Insulin pen (rapid acting insulin)

### Insulin pen needles

### Urine ketone test strips or ketone blood meter and strips

### 10-15g “fast sugar” options

### 10-15g “stabilizing” snack options

### Glucose gel

### Glucagon kit

### Contact information

Prescriptions to pick up at Your Pharmacy

### Glucose test monitor

### Glucose test strips

### Lancets

### Rapid acting insulin

### Long acting insulin

### Pen needles

### Urine ketone strips or blood ketone meter & strips

### Glucagon emergency kits

Blood Sugar (Glucose) Monitoring

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### Blood glucose meters Page 59

### Common problems causing inaccurate blood sugar results

### Features of blood glucose meters

### Suggested blood glucose ranges Page 61

### Daily record sheet (log sheet) Page 62

### When to do blood glucose levels Page 63

### Record keeping Page 65

### Meters with home downloading programs Page 70

Drawing Up & Giving Insulin

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### Where to inject the insulin Page 83

### Injection sites Page 83-84

### Insulin syringes Page 84

### Injection rotation chart Page 85

### Drawing up the insulin Page 86

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### When to inject the insulin Page 92

### Disposal of needles Page 93

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### Insulin into muscle Page 98