



Lucile Packard Children's Hospital
STANFORD UNIVERSITY MEDICAL CENTER



Diabetes Workbook

Packard Pediatric Diabetes Center
(650) 498-7353
Website: dped.stanford.edu

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Caring for a Child with Diabetes

Family Checklist

BEFORE YOU GO HOME TODAY:

You should know:

- ☐ The difference between Type 1 and Type 2 Diabetes
- ☐ How to check a blood glucose using your glucometer
- ☐ Your target blood glucose range during the day and at bedtime
- ☐ How to give insulin by injection
- ☐ How to dispose of sharps
- ☐ How to store your insulin
- ☐ Your child's insulin doses
- ☐ How to identify and treat a low blood sugar during the day and at bedtime
- ☐ How and when to use Glucagon
- ☐ What to do when your blood glucose is high and how to check ketones
- ☐ What to do if your child gets sick
- ☐ How to count carbohydrates and determine the insulin dose at meals and snacks
- ☐ How to get a medic alert identification
- ☐ How and when to call the diabetes educator and diabetes doctor on-call

In addition to this binder, you should have:

- ☐ Diabetes supplies for 3 days
- ☐ A prescription for diabetes supplies
- ☐ An insulin dose sheet
- ☐ Your completed daily diabetes schedule
- ☐ Your completed "diet recall"
- ☐ A school form
- ☐ A scheduled follow-up clinic appointment and advanced diabetes class

Lucile Packard Pediatric Diabetes Center
HOW TO REACH US BY PHONE
Routine Calls

- Insulin dose adjustments • Prescription issues • School forms/issues • Insurance authorizations • Non-urgent questions

Call **650-498-7353** to leave a message for the diabetes educators. Your call will be returned within 48 business hours.

DO NOT LEAVE URGENT CALLS ON THIS VOICE MAIL

Urgent Calls

If your child...

- is sick • is unable to eat or drink • is vomiting
- has moderate to large ketones • needed Glucagon
- is having a low blood sugar you cannot get stable
- got the wrong insulin dose • has an insulin pump failure

Call **650-497-8000** to reach the Diabetes Team during the work day, after hours, weekends and holidays

ASK TO SPEAK TO THE DIABETES DOCTOR ON CALL

EMERGENCY CALLS

If your child is unconscious, has a seizure,
or is unresponsive

INJECT GLUCAGON

Call 911 immediately

**Once your child is awake, check blood sugar and
call the doctor on call to discuss next steps.**



Dear Families,

Welcome to the Lucile Packard Pediatric Hospital Diabetes Program!

We have made this workbook to help you learn about your child's newly diagnosed diabetes.

The diabetes team at Lucile Packard Pediatric Hospital offers family centered care. The education you receive and the follow-up care we give is team based, with you being the key member of this team.

Your team consists of our Pediatric Endocrinologists, certified diabetes educators (CDE), registered dietitians (RD), and social workers. We work together to provide the best care for your child. After diagnosis, you and your child will receive complete diabetes education so that you can safely care for your child's diabetes at home.

After your initial education is complete, you will have daily phone contact with our endocrinologists and diabetes educators who will make medication dose adjustments and answer your questions. Within a week after the diagnosis, your child will be scheduled for a follow-up diabetes clinic visit and a diabetes education class. At your diabetes clinic visit you will see one of our diabetes doctors, a diabetes educator, dietitian and social worker.

Please bring this workbook, your glucometer, your blood glucose logs and your questions with you to all your clinic appointments.

Thank you and we look forward to getting to know your family.

Sincerely,

Your Diabetes Team

**Lucile Salter Packard Children's Hospital at Stanford
Pediatric Endocrinology and Diabetes Clinic**

Faculty:

(650) 723-5791

Darrell M. Wilson, M.D., Division Chief
Laura K. Bachrach, M.D.
E. Kirk Neely, M.D.
Bruce Buckingham, M.D.

Tandy Aye, M.D.
Caroline Buckway, MD
Avni Shah, M.D.
Brian Feldman, M.D., PhD

Endocrinology Fellows:

(650) 723-5791

Sejal Shah, M.D.
Rajiv Kumar, M.D.
Matt Stenerson, M.D.

Office Administrative Assistant:

(650) 723-5791

Ofelia Gutierrez (se habla español)

Endocrine Nurse

(650) 723-6053

Eileen Durham, MSN, PNP, RN

Diabetes Educators:

(650) 498-7353

Betsy Kunselman, NP, CDE
Julie Senaldi, RN, CDE
Barry Conrad, MPH, RD, CDE (se habla español)
Kim Clash, PNP, CDE

Dietitian:

Diana Hendry, MS, RD

(650) 497-8817

Social Worker

Meg Farquhar, MSW

(650) 498-2562

Emergency contact after business hours:

(650) 497-8000

Ask for the Pediatric Endocrine doctor on call

Contacto de emergencia

Pregunta por el endocrinólogo pediátrico que esté de guardia

Adicionalmente: Puede pedir un interprete si lo necesita

Academic and Administrative Office:

Office hours: 8 am to 5 pm, Monday to Thursday, and 8am to 12pm on Friday

Pediatric Endocrinology and Diabetes Office

300 Pasteur Drive, Room G-313

Phone: (650) 723-5791

Stanford, CA 94305-5208

Fax number: (650) 725-8375

Endocrine and Diabetes Clinic, Lucile Salter Packard Children's Hospital

At the Mary L Johnson Pediatric Ambulatory Care Center

730 Welch Road, 2nd Floor, Medicine Specialties

Stanford, CA 94304

Website: <http://dped.stanford.edu>

To schedule or change an appointment:

(650) 721-1811, option 2

Revised 12/6/2011



An appointment has been made for you in the Diabetes Clinic:
on _____ at _____ am / pm

Go to:

Endocrine and Diabetes Clinic

Lucile Packard Children's Hospital

At the Mary L Johnson Pediatric Ambulatory Care Center

730 Welch Road, 2nd Floor, Medicine Specialties

Palo Alto, CA 94304

AND

You have been scheduled to attend an Advanced Diabetes Class:
on _____ at _____ am / pm

Go to:

Endocrine and Diabetes Clinic

Lucile Packard Children's Hospital

At the Mary L Johnson Pediatric Ambulatory Care Center

730 Welch Road, 2nd Floor, Medicine Specialties

Palo Alto, CA 94304

Website: <http://dped.stanford.edu>

-
- Please arrive 15 minutes before your scheduled appointment time
 - Please call our scheduling department at 650-736-7642 if you are unable to keep these appointments.
 - Please bring your Family Diabetes Workbook, your blood glucose records and meter, your current insulin plan and your questions.
-

**Our Diabetes Clinic is located at the
Mary L. Johnson Pediatric Ambulatory Care Center**

730 Welch Road

Palo Alto, CA 94304

Second Floor Medicine Specialties Clinic

If you get lost or going to be late call 650-498-4225 (clinic front desk)

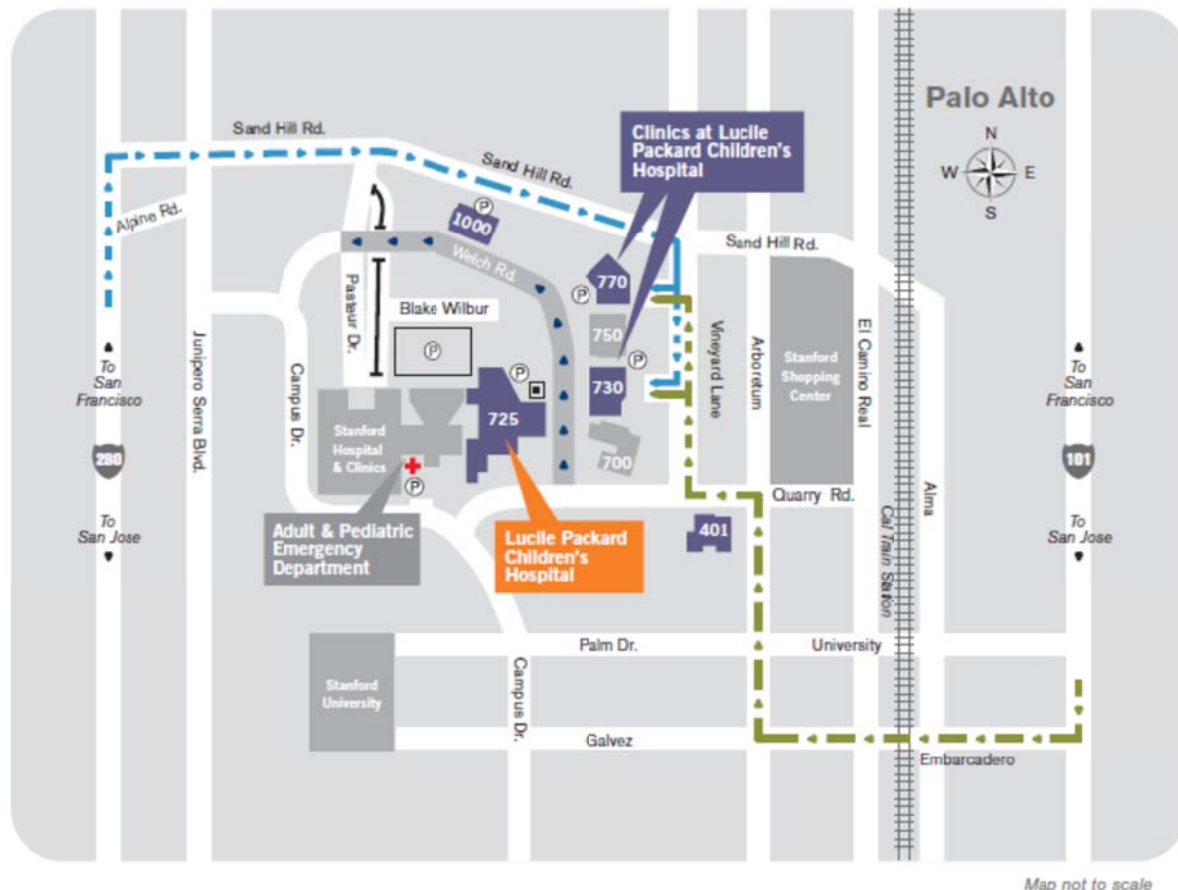
From US Highway 101 North or South

Take the Embarcadero Road exit West. Cross El Camino Real (becomes Galvez Street). Turn right onto Arboretum Road, cross Palm Drive. Turn left onto Quarry Road. Turn right onto Vineyard Lane. Turn left into the 730 Welch clinic driveway.

From Highway 280 North or South

Take the Sand Hill Road exit East. Turn right onto Vineyard Lane. Turn right into the 730 Welch clinic driveway.

Directions to Lucile Packard Children's Hospital and Clinics



Map not to scale

Types of Diabetes

Type 1 Diabetes (also known as childhood, juvenile, Insulin-dependant)

- **Not enough insulin is being made by the beta cells in the pancreas**
- **Caused by a “self-allergy” or the immune system destroying the beta cells in the pancreas**
- **Children with Type 1 Diabetes often do not have other family members with Type 1 Diabetes**
- **Symptoms include having to pee more (increased urination), being more thirsty and weight loss**
- **Blood sugar levels must be checked several times of day.**
- **Insulin must be given using a needle**

Type 2 Diabetes (also known as adult-onset or non-insulin dependant)

- **The beta cells in the pancreas make insulin but the insulin does not work well (“insulin resistance”)**
- **Associated with obesity and lack of physical activity**
- **Children with Type 2 Diabetes usually have other family members with Type 2 Diabetes**
- **Symptoms include increased urination, increased thirst and weight loss**
- **Treated with diet, exercise, medicine that helps the body use insulin. Sometimes insulin is given as a treatment.**

Your doctor and certified diabetes educator will discuss with you which type of diabetes your child has.



How to test your Blood Glucose Using Any Meter:

- Read the manual for your meter, and make sure that you are familiar with how to use it.
- Clean your finger before you do the test. Wash your hands or clean with alcohol swab. Food and dirt on your hands may cause your blood glucose meter to give you results that are not correct.
- Turn your meter on and follow the directions.
- Be sure the code number on the vial of test strips matches the code number that appears on your meter. The code number may change with every vial, and it should be checked and changed as needed every time a new vial is opened. If you are using the Freestyle Lite meter, you do not need to “code” the test strips to the meter. This is automatically done for you when you insert the test strip.
- Check the expiration date on the test strips before using them.
- Be sure to follow the recommendations for proper storage of your test strips. Test strips are sensitive to changes in temperature and moisture. They should always be kept in their original container and used immediately after they are removed from the container.
- Perform a control solution test (see your user manual) at the times recommended by the meter company.
- Poke your finger with lancet device (a.k.a. “the poker”), and put the correct amount of blood to the strip. If you do not apply enough blood, you may get an error message and will need to start over with a new test strip.
- Wipe the rest of the blood off your finger with a cotton ball or tissue. **DO NOT LICK YOUR FINGER.** (Licking your finger can increase the chance of getting an infection)
- If your blood glucose test results do not match how you are feeling, be sure to wash your hands, check your meter, (code number, control solution etc) and do the test again.

Blood Glucose Target Ranges

The blood glucose range before meals (fasting) in a child who does not have diabetes is between 70-110 mg/dl. The blood glucose target range before meals for children with diabetes changes with age.

<u>Age</u>	<u>Fasting target range</u>
Under 5 years	80-200 mg/dl
5-11 years	70-180 mg/dl
12 years and up	70-150 mg/dl

Please refer to the Hypoglycemia and Hyperglycemia handouts for treatment recommendations if your child's blood glucose is less than or greater than the above range.

The target ranges for blood glucose at bedtime are a little higher than the daytime, because it is important to decrease the risk of the blood glucose level dropping too low (hypoglycemia) at night.

<u>Age</u>	<u>Bedtime/Overnight target range</u>
Under 5 years	110-200 mg/dl
6-12 years	100-180 mg/dl
12 years and up	90-150 mg/dl

If your blood glucose at bedtime or overnight is **less than the above range**, give an extra 15 gram carbohydrate snack that contains some fat and protein (ie. half a cheese or PB&J sandwich).

If your blood glucose is **higher than the target range**, you may feel symptoms of high blood glucose (see hyperglycemia handout).

A1C Blood Test

The A1C is a blood test that measures the average blood glucose (sugar) over the last 2 - 3 months. This is an important test for children with diabetes, because it gives an idea of how well the diabetes is being managed. Followed over years, the A1C can project the risk of other diabetes related health problems. An A1C will be measured every 3 months at every diabetes clinic visit.

A1C (%)	Average Blood Glucose (mg/dl)	A1C (%)	Average Blood Glucose (mg/dl)
5.....	97	10.....	240
5.5.....	112	10.5.....	254
6.....	126	11.....	269
6.5.....	140	11.5.....	283
7.....	154	12.....	298
7.5.....	169	12.5.....	312
8.....	183	13.....	326
8.5.....	198	13.5.....	340
9.....	212	14.....	355
9.5.....	226		

Goals for healthy A1C and blood glucose (BG) range by age

Age	A1C (%) Goal	BG Goal Range (mg/dL)
Age 0-6 years	7.5-8.5	80-200
Age 6-12 years	< 8	70-180
Age 13-18 years	< 7.5	70-150
Adult	< 7	70-140

Daily Diabetes Schedule

Time	Activity	Comments
_____	Wake up	_____
_____	Breakfast blood glucose (BG) check	_____
_____	Count carbs/ give insulin	_____
_____	Eat Breakfast	Carb grams: _____
_____	Leave for school	_____
_____	Morning Snack	Carb grams: _____
_____	Lunch blood glucose check	Should be 2 hrs after last snack or insulin dose
_____	Count carbs/give insulin	_____
_____	Eat Lunch	Carb grams: _____
_____	Afternoon Snack	Carb grams: _____
_____	Dinner blood glucose check/ Count carbs	_____
_____	Call for Insulin Dose	Call (650) 497-8000
		Ask for diabetes doctor on call
_____	Give insulin	_____
_____	Dinner	Carb grams: _____
_____	Bedtime blood glucose check	_____
_____	Bedtime snack	If BG below target range, Give snack of 15 g of carbs
_____	12 AM blood glucose check	_____
_____	3 AM blood glucose check	_____

Blood Glucose Log Sheets Packard Pediatric Diabetes Center Insulin Dosage Adjustment Sheet for faxing Insulin abbreviations: A= Novolog, H= Humalog, N= NPH, G=Lantus					Diabetes Educator Line: (650) 498-7353 Fax: (650) 725-8375 revised 2/18/2010			
Date/Day	Breakfast	Mid morning	Lunch	Afternoon	Dinner	Bedtime	Midnight	2 to 3 am
	BG	BG	BG	BG	BG	BG	BG	BG
	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin
	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs
	NOTES							
	BG	BG	BG	BG	BG	BG	BG	BG
	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin
	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs
	NOTES							
	BG	BG	BG	BG	BG	BG	BG	BG
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	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs
	NOTES							
	BG	BG	BG	BG	BG	BG	BG	BG
	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin
	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs
Usual insulin dose:		Correction insulin or sliding scale			Insulin to Carb ratio		Ketone testing/ comments	
Name:					Date of Birth:		How long with DM?	

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	NOTES							
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	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs
	NOTES							
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	NOTES							
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	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin
	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs
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Blood Glucose Log Sheets

Packard Pediatric Diabetes Center

Insulin Dosage Adjustment Sheet for faxing

Insulin abbreviations: A= Novolog, H= Humalog, N= NPH, G=Lantus

Diabetes Educator Line: (650) 498-7353**Fax: (650) 725-8375**

revised 2/18/2010

Date/Day	Breakfast	Mid morning	Lunch	Afternoon	Dinner	Bedtime	Midnight	2 to 3 am
	BG	BG	BG	BG	BG	BG	BG	BG
	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin
	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs
	NOTES							
	BG	BG	BG	BG	BG	BG	BG	BG
	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin
	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs
	NOTES							
	BG	BG	BG	BG	BG	BG	BG	BG
	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin
	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs
	NOTES							
	BG	BG	BG	BG	BG	BG	BG	BG
	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin
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Usual insulin dose:		Correction insulin or sliding scale			Insulin to Carb ratio		Ketone testing/ comments	
Name:					Date of Birth:		How long with DM?	

Blood Glucose Log Sheets Packard Pediatric Diabetes Center Insulin Dosage Adjustment Sheet for faxing Insulin abbreviations: A= Novolog, H= Humalog, N= NPH, G=Lantus					Diabetes Educator Line: (650) 498-7353 Fax: (650) 725-8375 revised 2/18/2010			
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	BG	BG	BG	BG	BG	BG	BG	BG
	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin
	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs
	NOTES							
	BG	BG	BG	BG	BG	BG	BG	BG
	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin
	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs
	NOTES							
	BG	BG	BG	BG	BG	BG	BG	BG
	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin
	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs
	NOTES							
	BG	BG	BG	BG	BG	BG	BG	BG
	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin	Insulin
	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs	Carbs
Usual insulin dose:		Correction insulin or sliding scale			Insulin to Carb ratio		Ketone testing/ comments	
Name:					Date of Birth:		How long with DM?	

Action and Timing of Different Types of Insulin

The point at which insulin starts working is called the **onset**. The time when insulin is working the strongest is called the **peak**. The **duration** is how long the insulin works in the body before it is gone. Knowing when insulin is working in your body helps you to respond appropriately to high or low blood glucose levels.

Insulin Type	Color	Length of Action		
		Onset	Peak	Duration
Rapid Acting Humalog® (lispro) Novolog® (aspart) Apidra® (glulisine)	Clear	0 - 15 minutes	30 - 90 minutes	Up to 5 hours
Intermediate Acting NPH Humulin N® Novolin N®	Milky white when mixed (roll the vial to mix)	2 - 4 hours	6 - 10 hours	Up to 20 hours
Long Acting Lantus® (glargine) Levemir® (detemir)	Clear	1 - 2 hours	no peak	Up to 24 hours
Premixed: Short and Intermediate Acting Humulin® 70/30 Novolin® 70/30 Humulin® 50/50	Milky white	30 minutes - 1 hour	2 - 10 hours	Up to 20 hours
		30 minutes - 1 hour	1 - 6 hours	14 hours
Premixed: Rapid and Intermediate Acting Humalog-Mix® 75/25 Novolog-Mix® 70/30 Humalog® 50/50	Milky white	0 - 15 minutes	30 minutes - 12 hours	Up to 20 hours

Important Storage Information!

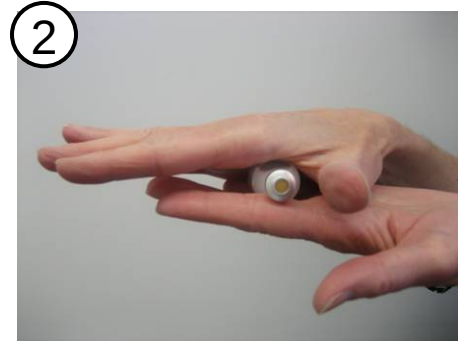
Store your unopened insulin in the refrigerator but avoid keeping it on the refrigerator door. Insulin kept in the refrigerator is good until the expiration date. Once it is opened, insulin can be stored at room temperature for one month only. After the vial has been opened, the insulin doesn't work as well after 28 days. To help you remember, **date each vial when you open it with the date it should be discarded and be sure to throw it away in 28 days**. Don't expose it to extreme heat (like in the trunk of a car or greater than 86°F) or cold (like a freezer or less than 32°F). If your insulin has been exposed to extreme heat or cold, throw it away and open a new vial. If you notice at anytime that your blood sugars seem to be higher than you would expect, open new insulin vials to see if the insulin is the cause.

Insulin Injection

Insulin is a hormone that lowers blood sugar (glucose). Insulin cannot be taken as a liquid or pill by mouth because stomach enzymes destroy it before it can work. To use insulin safely, it is important to know how to draw up and inject insulin correctly.

How to Draw up Insulin (Vial and Syringe)

1. Wash your hands and gather your supplies.
2. **Never shake a bottle (vial) of insulin.** If you take the insulin that looks cloudy, roll the bottle between your hands until the insulin is evenly cloudy.



3. Clean the top of the bottle with an alcohol wipe.

4. Check the amount of insulin you will need. Get a clean, new syringe. Remove the orange cap. Pull the plunger until you fill the syringe with that amount of air.



5



5. With the bottle right side up, push the needle into the rubber stopper on top of the bottle and push the air in the syringe into the bottle.

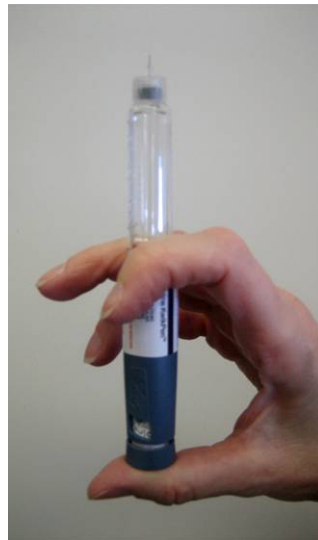
6



6. Turn the bottle upside down with the syringe still in the rubber stopper.
7. Slowly pull the plunger to fill the syringe with insulin. To get the right number of units, make sure that the top of the black plunger is lined up to match the number of insulin units needed.
8. Look for air bubbles. If there are air bubbles in the syringe, that means you will not be getting the right amount of insulin. If you see air bubbles in the syringe, push the insulin back into the bottle (do not pull out the needle) and start over from Step 7.
9. When you have the correct number of units in the syringe, pull the needle out of the rubber stopper.

How to Use an Insulin Pen

1. Wash your hands and gather your supplies.
2. Clean your skin (see Step 1 of **How to Inject Insulin**).
3. Peel back the paper cover on the needle, and attach the needle to the pen by screwing it into place.



4. To fill the needle with insulin, do an "air shot". To do an "air shot" turn the dial to 2 units. Push the bottom of the dial (end of the pen) all the way in. Check to make sure that insulin comes out of the needle tip. If not, repeat the "air shot". An "air shot" must be done before every injection.

5. Make sure the dial goes back to zero ("0"). It is very important to do this step each time you take an injection and to use a new needle each time.

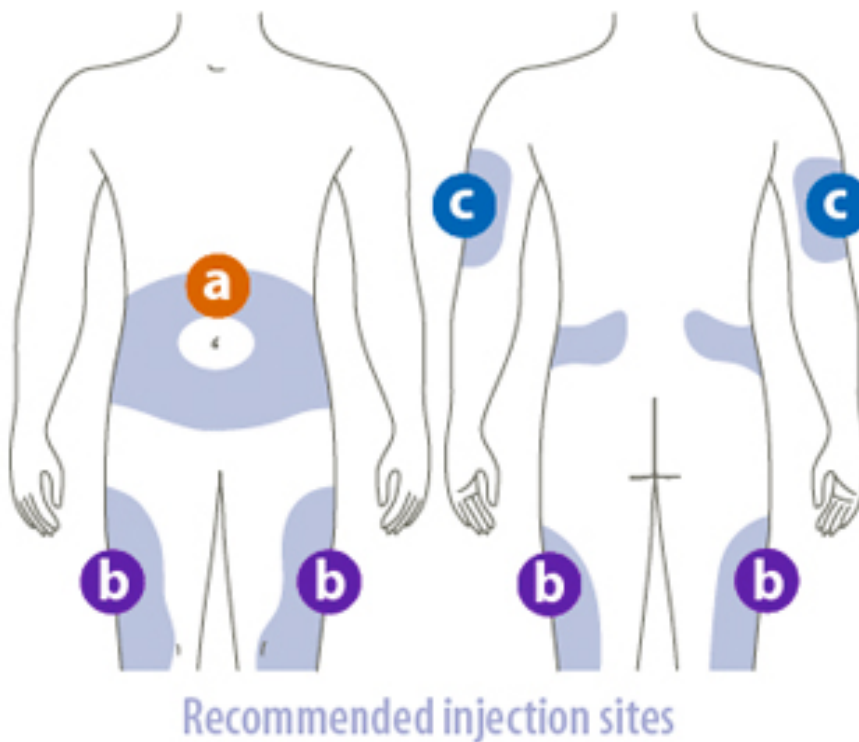
6. Dial the pen to the amount of units needed.
7. Press the dial to deliver your injection. Count to 10 before removing the needle. See manufacturer recommendations for how to store the pens.
8. Remove the needle from the pen and place it in a sharps container. Do **not** store the pen with the needle attached. This may cause insulin to leak out.





Insulin Injection Sites

1. **The abdomen (belly or tummy) (a)**, except for a two-inch circle around the belly button (navel).
2. **The top and outer thighs (b)** Avoid injecting too close to the bony area above the knee.
3. **The outer, upper arms (c)** Use the outer back area of the upper arm where there is fatty tissue.



Rotation of Injection Sites is IMPORTANT! Injecting in the same place all the time can cause lumps of scar tissue under the skin to form. This scar tissue changes the way insulin is absorbed, making it more difficult to keep your blood glucose on target. Rotating injection sites will help prevent these lumps from forming.

Low Blood Sugar (Hypoglycemia)

A low blood sugar is 70 mg/dL or _____

Signs and symptoms:

Shaky, sweaty, pale, weak, headache, fast heartbeat, dizzy, blurry vision, anxious, hungry, confused, uncoordinated, grumpy

The Rule of 15s

If able to eat or drink, give 15 grams of fast acting carbohydrate:

4 oz. Juice = 15 grams (or)

4 oz. Regular soda = 15 grams (or)

3-4 Glucose tablets = 15 grams

- * Recheck blood sugar in 10-15 minutes, repeat if necessary until blood sugar is over 70.
- * If more than an hour before next meal or snack, after treating the low, give a 15 gram carb snack (eg: half a peanut butter sandwich)

If child is severely hypoglycemic & cannot safely swallow food:

Squeeze 1 small tube of CAKEMATE decorating gel into your child's mouth (squirt in cheek). As they wake up, you may then give juice or tablets and treat until the blood sugar is over 80.

If child becomes unconscious or begins to have a seizure:

*** Give the *Glucagon Emergency Kit* injection (full syringe).**

Remember to mix the vial first!

- * Place child on their side in case they throw up.
- * The injection can be given in the muscle or fat - give it in the thigh if possible.
- * Call 911
- * Side effects of Glucagon will last up to 6 hours and include nausea, vomiting and bloating
- * Call the diabetes team and check your child's blood sugar every hour and keep above 80
- * When your child is better, please call the diabetes team (see Urgent Call Handout) to adjust insulin and discuss ways to prevent hypoglycemia

Remember: You cannot hurt your child by giving Glucagon

Preparing Glucagon for Injection

1. Remove the flip-off seal from the bottle of glucagon.
2. Remove the needle cover from the syringe. Do not remove the plastic clip from the syringe. This clip prevents the plunger from being pulled out of the syringe.
3. Inject all of the liquid in the syringe into the bottle of glucagon, and then remove the syringe from the bottle.
4. Swirl the bottle gently until the dry glucagon dissolves completely. The mixture will look clear like water. Do not use the medicine if it looks cloudy or thick.
5. Hold the bottle upside down and insert the needle into the bottle. Pull the plunger back until the syringe fills with the mixture.

***You must mix the dry glucagon with the liquid in the syringe before giving the injection.**

For children:

- if child < 20 kg or 45 lbs, give 0.5 mg (or ½ dose)
- If child > 20 kg or 45 lbs, give 1 mg or full dose

Giving the Glucagon Injection (this will be demonstrated by a nurse or educator):

1. Clean a spot on the buttock, arm or thigh with an alcohol swab.
2. Slowly push the needle into the skin. Inject the glucagon mixture, and then withdraw the syringe. Press an alcohol swab on the injection site. Dispose of the syringe in a sharps container.
3. Turn the person on his or her side. This helps prevent the person from choking if he or she vomits.
4. Call 911.
5. As soon as the person is awake enough to safely swallow food and drink, he or she must drink (regular soft drink or juice) to prevent the blood sugar from getting low again, and then eat a snack with carbohydrate, fat and protein (crackers and cheese or a 1/2 sandwich).

SEVERE HYPOGLYCEMIA, ALWAYS GIVE GLUCAGON, CALL 911

Always tell your doctor if you have had a low blood glucose (Hypoglycemia) emergency, even if you feel fine afterwards.

* Adapted from the Eli Lilly™ glucagon instruction sheet. Other kits are available on the market

High Blood Sugar (Hyperglycemia)

Signs and symptoms:

- * extreme thirst
- * frequent urination
- * blurry vision
- * stomach ache
- * wets the bed
- * behavioral changes
- * tired/no energy
- * grumpy

Check your child's blood sugar at about the same time each day. Write down the date, time and results in a logbook.

If there is a pattern of three or more blood sugar readings over 180 call our diabetes educators.

We will review the blood sugar results and may change the amount of insulin your child is getting. We will return your call within 24-48 business hours.

Diabetes Educator telephone

650-798-7353

Messages checked M-Fri 8 am-5 pm

If blood sugar is over 250 twice in a row, check your child's urine for ketones.

If **trace or small ketones**, drink lots of water and keep testing until they are negative.

If **moderate or large ketones**, call 650-497-8000 and ask for the diabetes doctor on-call. Your child may need extra insulin right away.

Please have test results ready when you call.

SICK DAY GUIDELINES

See Chapter 16 in your Pink Panther Book for more tips on Sick Day Management

When your child is sick, the blood sugars may go up. But, if he/she is vomiting or has diarrhea, the blood sugars may go down.

**It is important to check blood sugar level and ketones often.
Follow these instructions:**



Check blood sugar and ketones every 2-3 hours. Keep checking ketones until they are negative twice in a row.

Never stop giving insulin! Your child might need less insulin, but still needs it *even* if they can't eat.

Call the diabetes team if...

- Your child isn't drinking fluids.
- Your child is not eating normally
- Your child is throwing up (vomiting)
- Your child has moderate or large ketones.

DO NOT leave a voice message on our answering machine.

During the work day, after hours, holidays or weekends, to reach a physician or diabetes educator immediately, call **650-497-8000**, and ask to speak to the diabetes doctor on-call.

Have your blood sugars and ketone results ready.

What are Ketones?

When there is not enough insulin in the body, you burn fat for energy. When you burn fat, **ketones are made** as a side product. If your body does not have enough insulin, ketones are found in the blood and urine. **Ketones** are not good for your body because they make your blood acidic. They also make you feel sick to your stomach. Moderate to large amounts of ketones can be treated with insulin by injection at home. Over time, large amounts of **ketones** in the blood or urine can become dangerous and lead to **Diabetic Ketoacidosis (DKA)**. DKA must be treated with IV insulin in the hospital.

An easy way to check for ketones is in the urine. Your nurse or diabetes educator will teach you how to do this at home.

When to Check for Ketones?

- If you have two unexplained high blood sugars over 250 mg/dL
- If you are sick and/or vomiting
- If you missed your injection of intermediate or long acting insulin (NPH, Lantus, or Levemir)
- If your insulin pump stopped working

The chart below will tell you what to do when urine or blood ketones are at certain levels.

Urine Ketones	Blood Ketones	What to do
Negative	< 0.6 mmol/L	Normal schedule and activities
Trace or Small (15 mg/dL)		Drink extra water and recheck in 2 hours. Rest - no exercise until ketones are gone.
Moderate (40 mg/dL)	0.6 - 1.5 mmol/L	Call your diabetes team at 650-497-8000 and ask for the Diabetes doctor on call. They will help you give extra insulin and fluids. Rest - no exercise.
Large (80 mg/dL)	1.6 - 3.0 mmol/L	Call your diabetes team at 650-497-8000 and ask for the Diabetes doctor on call. They will help you give extra insulin and fluids. Rest - no exercise.
	> 3.0 mmol/L	Call your diabetes team at 650-497-8000 and ask for the Diabetes doctor on call. The doctor will decide if you need to go to the ER.



Diet Recall –

Breakfast _____

Total Carbohydrates = _____ = _____ units

Snack _____

Need for coverage? _____

Lunch _____

Total Carbohydrates = _____ = _____ units

Snack _____

Need for coverage? _____

Dinner _____

Total Carbohydrates = _____ = _____ units

Snack _____

Need for coverage? _____

Nutrition Therapy with Diabetes

The main goal of nutrition therapy for children with diabetes is to give a balanced diet to promote normal growth, development, and to keep blood glucose levels in the body under control.

Everyone needs to eat foods that have carbohydrate, protein, and fat everyday to be healthy. Carbohydrates raise blood glucose. Therefore, it is very important to carefully measure the amount of carbohydrate eaten at meals and snacks for anyone living with diabetes.

Counting carbohydrates is one of the main tools to help balance blood glucose.

There are many myths and misinformation about good food for people with diabetes. Some say that a person with diabetes cannot eat sweets, fats or salt. This is NOT true. It is OK for kids and teens with diabetes to eat almost anything, as long as he or she count all carbohydrates and takes the right amount of insulin to keep their blood glucose in control.

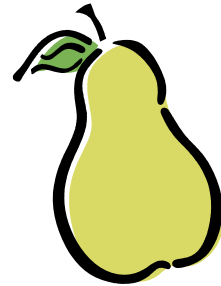
The role of a healthy diet is also very important for children and teens with Type 2 Diabetes. Although people with Type 2 Diabetes might not take insulin, counting carbohydrates, eating consistent amount of carbohydrates and managing body weight can all help to control blood glucose levels.

What are carbohydrates?

Carbohydrate is a word for foods that contain starch, sugar and fiber. (Sugars may be added to foods or may be present naturally). Most carbohydrates are turned into glucose in the body, which will then raise the blood glucose level.

Listed below are common foods with carbohydrates:

- Breads, crackers, cereals, hot dog buns
- Pasta, rice, beans, popcorn
- Starchy vegetables, potatoes and corn
- Milk and yogurt
- Fruit and fruit juice
- Table sugar, honey, syrup, cake and cookies



Introduction to Carbohydrate Counting

Monitoring foods with carbohydrate is made easier with **carbohydrate counting**.

A registered dietitian (RD) will teach you how to count and monitor carbohydrates. The more accurate you are with counting carbohydrates, the better your diabetes team can match the insulin to fit your child's needs.

The dietitian will give you nutrition education that includes information on carbohydrate containing foods, label reading, measurement of foods, exercise, how to treat a low blood glucose, special occasions and applying the insulin to carbohydrate ratio.

Although children and teens with Type 2 Diabetes do not always need insulin to control their blood glucose, it is still important to watch their carbohydrate intake. Making healthy eating choices is a KEY part to managing weight as well as controlling blood glucose levels. Reducing the size of meals, limiting "junk food," not eating juice and soda often, and eating more fruits and vegetables are all healthy changes to make with the whole family. Daily activity or exercise is also an important part of the treatment of Type 2 Diabetes. The American Academy of Pediatrics (AAP) recommends up to 60 minutes of activity most days of the week.



Age Appropriate Diabetes Management

Learning how to count carbohydrates must be individualized for the child and parents. When teaching how to count carbohydrates, we try to think about the age group, developmental stages and typical behavior of the child. In other words, we want to try to make the insulin fit your child's routine, instead of you fitting your child's routine into a set insulin and diet schedule.

Birth to Four Years of Age

A major goal is the prevention of hypoglycemia. Diet and nutritional management must also provide adequate energy and nutrients for the rapid growth that is normal for this age group. Small frequent meals and snacks can help to balance blood glucose levels in this age group. Having food with carbohydrates every 2 to 3 hours provides the energy children need and can prevent hypoglycemia.

In the toddler, one challenge is to match nutritional needs with activity and appetite. The insulin routine the child is taking should be checked every three to six months by the diabetes team. The diabetes team can share some ideas about how to time insulin doses to prevent low blood glucose given that toddlers can be 'picky' eaters.

In this age group, the parents are in control of most of the diabetes management. Parents control the meals, check the glucose level, and give insulin injections. The child can help with choosing which finger to poke, where to give the insulin, and food choices.

Five to Ten Years of Age

A child of this age can begin to understand diabetes management. They can help identify which foods contain carbohydrates and check their blood glucose. Children may also learn to draw up insulin and inject, but the parent needs to watch closely (supervise) because the care of diabetes is too much responsibility for a child of this age to do on their own.

Ten to Eighteen Years of Age

At this age, the child and adolescent can take more responsibility of their diabetes management. The child should be checking his or her own blood glucose, counting carbohydrates, drawing up and injecting insulin, but still under close

adult supervision. Because this is a growth period for adolescents, changes in the insulin routine are often needed to meet growth spurt needs (ages 11-13 for girls and 14-16 for boys).

In this age group, children change into teenagers. It is the normal for teens to gradually take over the care of their diabetes, but the responsibility of diabetes management can be overwhelming. Teens can develop the skills to check glucose levels, count carbohydrates, and give insulin on their own, but they will continue to need the support of their family.

Carbohydrate Counting Resources:

Books:

The Calorie King® Calorie, Fat & Carbohydrate Counter, Allan Borushek, Family Health Publications.

Websites:

www.calorieking.com

- Large database of general and packaged foods.

www.dietfacts.com

- Large database of fast food restaurants.

www.diabetes.org

- Basic diabetes information.

Helpful Hints

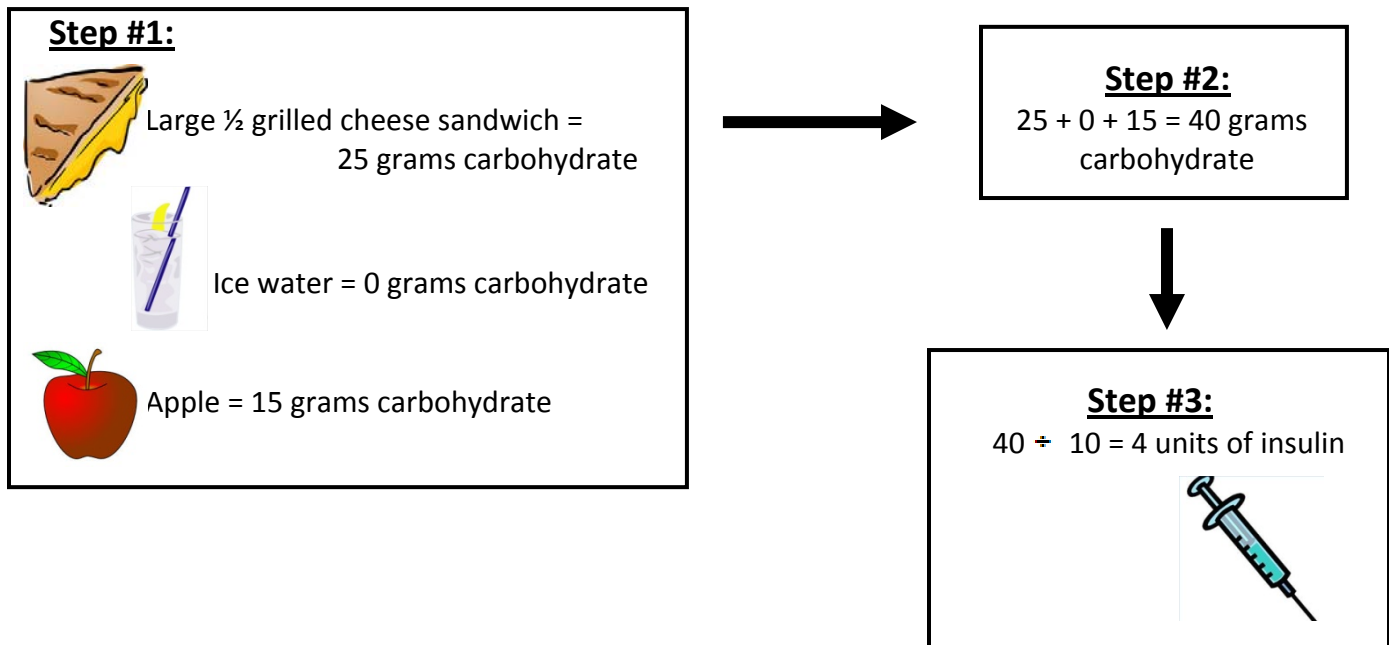
- When blood glucose is high, drink extra fluids and discuss recommendations for meals when high with your diabetes team.
- Don't skip meals or snacks when blood glucose is high.
- Don't skip meals or insulin doses.
- Talk to your diabetes team about special events and activities.
- Typically, children need to take in at least 15 extra grams of carbohydrates for every 30-45 minutes of intense physical activity.
- When in doubt, always check blood glucose level.
- Keep good records, including activity and carbohydrate intake.
- Carbohydrates in fast food meals can add up fast – be sure to count carefully! Most fast food restaurants have nutrition information pamphlets. ASK!

Using a Carbohydrate Ratio

For those who take rapid-acting insulin at mealtimes and want meal planning flexibility, an **insulin-to-carb (I:C) ratio can be used**. It works when the dose of insulin matches the amount of carbohydrate eaten. I:C ratio reflects how many grams of carbohydrate are “covered” by each unit of insulin.

For example: a 1-unit-per-10-grams (1:10) ratio means that one unit of insulin covers 10 grams of carbohydrate. A 1:20 ratio means that each unit covers 20 grams.

Calculating a meal or snack dose is simple when you know your I:C ratio. Simply divide the grams of carbohydrate you are eating by your ratio. If you have a 40 gram meal and each unit of insulin covers 10 grams of carbohydrate, you will need 4 units of insulin ($40 \div 10 = 4$).



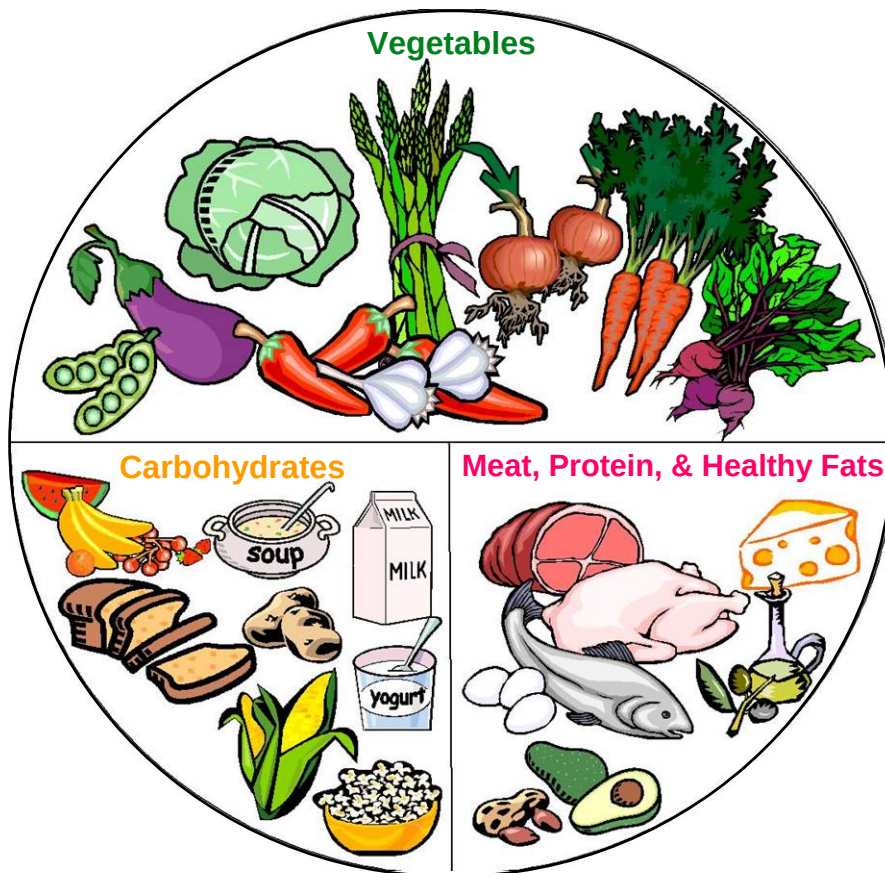
Counting grams of carbohydrate and using an I:C ratio allows a person to give just enough insulin to cover the carbohydrate he or she plans to eat. Knowing how to count carbohydrates and using an I:C ratio is helpful for tightly managing blood glucose levels.

Your healthcare team will help you determine your I:C ratio based on your blood glucose and meal records. Be sure to note:

- the number of grams of carbohydrate in the meal
- your blood glucose level before the meal
- the number of units of insulin in the pre-meal bolus
- your blood glucose level 3 hours after the meal

The Plate Method

Use this guide to help plan healthy meals and work on portion control



Vegetables

Fill half ($\frac{1}{2}$) of your plate with vegetables (raw or cooked). These should be non-starchy vegetables such as lettuce, cabbage, cucumbers, peppers, mushrooms, onions, garlic, beets, green beans, broccoli, celery, carrots, cauliflower and tomatoes.

Carbohydrates

Fill a quarter ($\frac{1}{4}$) of your plate with carbohydrates. Carbohydrates are all types of grains, legumes, fruits, starchy vegetables, and dairy. Choose whole grains over processed, refined grains.

Protein

Fill a quarter ($\frac{1}{4}$) of your plate with protein. This should provide 3-6 ounces of meat, poultry, fish, nuts/seeds, or meat replacements. A 3 ounce serving is the same dimensions as a deck of cards. Other high protein foods which are the equivalent to 3 ounces cooked lean meat include: 1 to 2 eggs, 2 tablespoons peanut butter, $\frac{1}{3}$ cup nuts, and 2 ounces cheese.

Sugar Substitutes

Artificial sweeteners that are approved by the Food and Drug Administration (FDA) are safe to use with diabetes. Common brand names include:

- Equal® and NutraSweet® (aspartame)
- Splenda® (sucralose)
- Sugar Twin®, Sweet-10®, Sweet'N Low®, and Sprinkle Sweet® (saccharin)
- Sweet One®, Sunett® (acesulfame potassium)

Artificial sweeteners offer the sweetness of sugar, without the calories. Artificial sweeteners are many times sweeter than sugar, so it takes a smaller amount to sweeten foods. Artificial sweeteners do not affect your blood glucose and in fact, are considered a “free food.” Remember, however, other ingredients in foods containing artificial sweeteners can still affect your blood glucose levels.



Sugar Alcohols are one type of reduced-calorie sweeteners found in sugar-free candies, chewing gum, and desserts. On average, sugar alcohols provide about half the calories of sugar and other carbohydrates. Many of the food products containing these types of sweeteners still have a carbohydrate, calories and fat, so never think of them as a “free food” without checking the food label. Sugar alcohols can also cause diarrhea or other discomfort such as bloating and cramping.

Examples of sugar alcohols include:

- Isomalt
- Maltitol
- Mannitol
- Sorbitol
- Xylitol

It is hard to know how sugar alcohols will affect your blood glucose levels because the effect that they have on your blood glucose can be different each time you eat them.

Use the following formula to estimate how much carbohydrate from a serving to count in your meal plan:

→ For foods that contain **MORE** than 5 grams of sugar alcohols:

- Subtract ½ (half) the grams of sugar alcohol from the amount of total carbohydrates in that food item. (Be sure to count the remaining grams of carbohydrate in your meal).

Example:

Portion : 1 bar

Total Carbohydrate: 15 grams / Sugar Alcohols: 6 grams

Account for 12 grams of carbohydrate for one bar (15-3 = 12 grams)

Diabetes Medical Management Plan for School and School Events
Lucile Packard Children's Hospital Diabetes Center
Phone: (650) 498-7353

Fax: (650) 725-8375

Student: _____

DOB _____

School Fax #: _____

1. Blood Glucose Checking:

- When: ☐ For suspected hypoglycemia ☐ Before snacks ☐ Before meals ☐ Before exercise ☐ Before getting on bus
- How: ☐ By student independently. Allow student to carry supplies ☐ By student with staff supervision ☐ Needs assistance by trained staff
- BG Target at school: _____ to _____ mg/dL

2. Routine Care of Hypoglycemia (BG < 70)

- see flow chart
 - Never leave student alone if low is suspected
- ☐ Self treatment of mild lows
☐ Needs assistance for all lows

3. Care of Severe Hypoglycemia

(unconscious, combative, or unable to swallow)

- see flow chart
- Give glucose gel in side of cheeks
- Administer glucagon by intramuscular injection ☐ 0.5mg ☐ 1 mg
- then **call 911**
- notify parent/guardian

4. Care of Hyperglycemia (BG > 300)

- see flow chart
 - Check urine or blood ketones
- ☐ At student's discretion
☐ Ketones checked by school staff
☐ Ketones checked by student with staff verification

5. Diet

- ☐ No restrictions, at student's discretion
☐ Lunch to be eaten between _____ am & _____ pm
☐ To avoid hypo/hyperglycemia, lunch should consist of _____ to _____ grams of carbohydrates
☐ Snack(s) at _____ am and/or _____ pm
☐ Extra snack allowed before/during exercise without insulin coverage

6. Insulin at School: ☐ Yes ☐ No

Type: Humalog or Novolog per student's discretion

- ☐ Before snacks ☐ Before lunch
☐ Before all carbohydrates *unless treating or preventing hypoglycemia*

7. Dose Prepared By:

- ☐ Student independently
☐ Guardian
☐ As designated by guardian
☐ Staff
☐ Student with staff verification

Equipment Used:

- ☐ Syringe and vial
☐ Insulin pen
☐ Insulin pump
☐ Student to carry his/her insulin at all times and independently decide on insulin doses

8. Insulin dose administered by:

- ☐ Student independently ☐ Staff
☐ Guardian ☐ Student with staff verification
☐ As designated by guardian

9. Insulin dose:

- ☐ At student's discretion
☐ Use bolus wizard or pump calculator to determine
☐ Insulin to carb ratio: _____ unit(s) for every _____ grams
☐ Correction Calculation: (at lunch only)
Give _____ unit(s) for every _____ above _____ mg/dL
Corrections should not be repeated more than every 3 hours
☐ Ok to use most recent insulin dose scale for lunch corrections and carbs
☐ Ok to decrease insulin dose by 20% if intense exercise is anticipated

10. Disaster Plan, goals of management of child with diabetes during a disaster is to 1) Prevent severe lows, 2) prevent diabetic ketoacidosis.

- ☐ Student to use insulin plan as above for meals
☐ Student to take Lantus: _____ units am or _____ units pm
☐ Give correction dose every 3 hours
give _____ unit(s) for every _____ above _____ mg/dL

11. Student to be allowed to call guardian any time for diabetes related issues.

12. Other: _____

Health Care Provider Signature: _____ **Date:** _____

Guardian Consent for Diabetes Management in School

I, the undersigned, request that the following specialized physical health care services for the management of diabetes in school be administered to my child in accordance with Education Code Section 49423.5. I will:

1. Provide the necessary supplies and equipment.
2. Notify the school if there is a change in pupil health status or attending physician.
3. Notify the school immediately and provide new consent for any change in diabetes plans.

I authorize the school personnel to communicate with the physician when necessary.

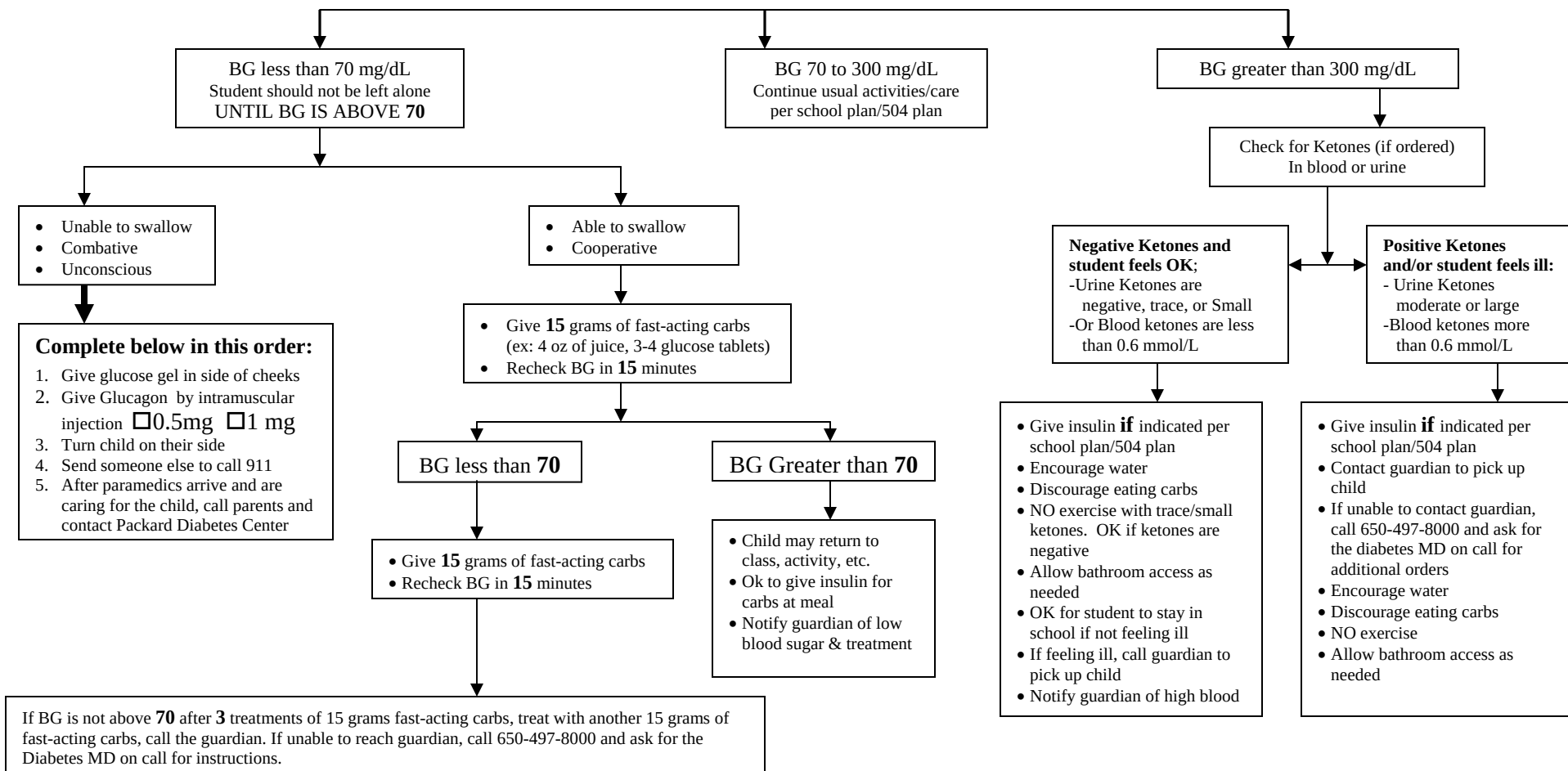
Guardian Signature: _____ **Date:** _____

300 Pasteur Drive, G-313
Stanford, CA 94305
(650) 498-7353

Diabetes Management Flow Chart Check Blood Glucose (BG)

- At designated times per school plan /504 plan
- If student complains of signs/symptoms of hypoglycemia/hyperglycemia
- If signs/symptoms of hypoglycemia/hyperglycemia are observed in student

Name: _____
DOB: _____
School: _____
School Fax: _____



Signs & Symptoms of a Low Blood Sugar (Hypoglycemia)

Can include: shakiness; nervousness; sweating; irritability, sadness, or anger; impatience; chills and cold sweat; fast heartbeat; light-headedness or dizziness; hunger; drowsiness; stubbornness or combativeness; lack of coordination; blurred vision; nausea; tingling or numbness of lips or tongue; headache; strange behavior; confusion; personality change; passing out; _____; _____

Signs & Symptoms of a High Blood Sugar (Hyperglycemia)

Can include: nausea; vomiting; stomach pain; fruity-smelling breath; lack of appetite; frequent urination; extreme thirst; weakness; blurry vision; warm, flushed skin; drowsiness; breathing problems; unconsciousness; _____;

Emergency Contact Info

Name: _____
Phone #1: _____
Phone #2: _____
Phone #3: _____
Alternate contact person: _____
Phone Number: _____



The Law, Schools, and Your Child with Diabetes

The Laws

The right of children with diabetes to care for their diabetes at school is based on the Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, and the Individuals with Disability Education Act (IDEA). These laws provide protection against discrimination for children with disabilities, including diabetes, in any program or activity receiving federal financial assistance. This includes all public schools and day care centers and those private schools and centers that receive federal funds.

There seems to be a lot of confusion regarding the differences between a 504 and Individualized Education Plan (IEP). To put it simply, a 504 plan is plan designed to deal with medical issues, such as diabetes, while an IEP is a plan designed to deal with educational challenges or special needs that need not be related to a medical treatment plan. A 504 would contain instructions, for example, for blood glucose monitoring, while an IEP would include instructions for additional reading education, should it be needed. Children with diabetes use a 504 plan for accommodations related to diabetes and need not have an IEP unless they have special academic needs.

- **Section 504 of the Rehabilitation Act of 1973**

According to this law, parents of qualifying children have the right to develop a Section 504 plan with their child's school. To qualify for protection under Section 504, a child must have a record of such impairment, or be regarded as having such impairment. Schools can lose federal funding if they do not comply with this law. Parents can use these laws to ensure that, while at school, their children with diabetes can fully participate in all school activities, while at the same time caring for their medical needs. This means that the school cannot: refuse to allow a child with a 504 to be on the honor roll, deny credit to a student whose absenteeism is related to diabetes, refuse to administer medication (a school cannot require parents to waive liability as a condition of giving medicine), and determine sports/extracurricular participation without regard to the student's diabetes. Any school that receives Federal funding must comply with IDEA and Section 504 laws. A child need not require special education to be protected.

- **The Americans with Disabilities Act**

This law prohibits all schools and day care centers, except those run by religious organizations, from discriminating against children with disabilities, including diabetes. Protection under this law is the same as that for Section 504.

- **Individuals with Disabilities Education Act (IDEA)**

IDEA mandates the federal government to provide funding to education agencies, state and local, to provide free and appropriate education to qualifying students with disabilities. This

includes children who have diabetes. As with the other two laws, you must show that diabetes can, at times, adversely affect educational performance. The school is then required to develop an Individualized Education Plan (IEP) to accommodate your child's needs.

- **State Regulations**

Some states have enacted additional legislation to protect children with disabilities. Contact your state legislature for further information.

What this Means

Any educational facility, school or daycare center, which receives federal funding cannot discriminate in the admission, educational process, or treatment of a student who has diabetes. Provided that the presence of diabetes has been disclosed and verified, and that the student/parents have requested reasonable accommodations, the educational facility is required by law to make the approved modifications which allow the child with diabetes to fully participate and benefit from all school activities and programs.

The student/parents are not required to assume responsibility for the provision of needed accommodations. However, the school can refuse to grant a request for an accommodation that is not specifically documented. School personnel do not have the right to confidential medical information. They need only to know what needs to be done to guarantee equal opportunity for the student. Any individual member of school staff who fails to comply with the approved medical and education plan can be held personally liable.

Responsibilities

- **Student or Parents**

1. In a timely manner, identify that the child has diabetes.
2. Provide recent documentation that the child has diabetes.
3. In writing, request needed accommodations.
4. Request a meeting to discuss 504 Plan and IEP.

- **School personnel**

1. Provide written assurance of nondiscrimination.
2. Provide notice of nondiscrimination in admission or access to its programs or activities. Notice must be included in a student/parent handbook.
3. Designate an employee to coordinate compliance.
4. Cooperate in providing authorized accommodations.
5. Request physician's specific recommendations of needed accommodations.
6. Request a meeting to discuss 504 Plan and IEP.
7. Provide grievance procedures to resolve complaints.

What to include in a 504 Plan

1. Medication procedures and dosages (e.g. insulin administration prior to meals, etc.) You will want to note if your child is capable of deciding that amount to be given or provide an alternative such as calling a parent or using a chart to determine amount to be given.
2. Blood glucose testing procedures (when where, etc.). The school does have the right to not allow blood glucose testing in the classroom. However, if you can demonstrate that this procedure will not endanger others (i.e., materials will be disposed of at home and not at school), your school may allow the child to check in a secure area in the classroom.
3. Procedures for treatment of hyper and hypoglycemia.
4. Precautions to be taken before physical activity.
5. Guidelines for meals, snack, special treats, and parties.
6. Contact information for medical assistance (as needed) and parents.

Download a Sample 504 Plan

Go to <http://www.childrenwithdiabetes.com/504/>

What to include in an IEP

1. The need for repeat of information. Sometimes, if a child has had an insulin reaction or extremely high blood sugar, that child may not be able to concentrate and need additional assistance.
2. The child with diabetes may need to be allowed to take make-up tests if that student has had an insulin reaction or severe hyperglycemia during an exam.
3. Flexibility in attendance requirements in case of health-related absences including physician visits (e.g., allowing students to be on honor roll and qualify for awards, etc).
4. Permission to leave class to use restroom as needed.
5. Provision of adequate time for taking medication, checking blood sugars, and completing meals and snacks.
6. Access to increased fluid intake as needed.

For More Information

- Major Federal Education Laws Affecting Children With Diabetes

Published 22 August 2000

Updated 19 August 2004

From www.childrenwithdiabetes.com

TIPS FOR TEACHERS OF STUDENTS WITH DIABETES

(Adapted from Loudoun County, VA Public Schools' *10 Tips for Teachers*)



1. EVERY CHILD WITH DIABETES IS DIFFERENT.

Each and every child with diabetes may have different symptoms of low blood sugar. Although many of the symptoms may be similar, they will not always be the same. Situations that can affect your student's blood sugar are: insulin, food intake, exercise, illness, stress and/or any changes in routine. Soon you will get to know your own student's unique individuality and their typical reactions to low blood sugar.

2. DON'T DRAW UNNECESSARY ATTENTION TO YOUR STUDENT'S CONDITION.

Your student with diabetes may have to eat snacks periodically in the classroom. In addition to your student's designated snack time, remember that he or she **MUST** eat whenever they feel low. This is imperative, especially if the student is unable to have his or her blood sugar level checked first. This is **NOT** a choice for the child with diabetes, but a necessity!

3. PROVIDE INCONSPICUOUS AND GENTLE REMINDERS.

Pay close attention to your student's regular snack time. Not all children (especially the very young) can tell time, or are going to remember their snack time. If you haven't noticed them eating, pass them a note or work out a special "password" between the two of you that reminds them of their snack time.

4. DO NOT PUT A "LABEL" ON THE STUDENT WITH DIABETES.

Never single a child with diabetes out as the "diabetic" kid. First and foremost, the child with diabetes needs and wants to feel unique and special, just like every other student in your class.

5. DO NOT SYMPATHIZE: EMPATHIZE.

A child with diabetes does not want or need your sympathy. These children need understanding, acceptance and support. Educate yourself in every way possible about diabetes. Learn how it may affect them and have compassion for how they must live their lives each and every day.

6. ALWAYS BE PREPARED.

Always carry a quick and portable snack **WHENEVER** you and your student with diabetes leave the classroom or the school grounds. This is especially important during fire drills, earthquake drills, field trips, special presentations and/or assemblies. A small can of juice together with crackers may work best.

7. USE THE BUDDY SYSTEM.

If your student with diabetes tells you he or she feels low, then give the student a quick-acting carbohydrate snack such as fruit juice, regular soda, or glucose tabs. If your student needs to see the nurse, **ALWAYS** send a "buddy" (someone who won't object) with them. **Never leave a child alone or sent anywhere alone when experiencing low blood sugar.**

8. ALLOW UNRESTRICTED BATHROOM BREAKS.

When given the opportunity, let the child with diabetes know that it's okay to go to the bathroom **WHENEVER** necessary and have a water bottle when blood sugar is high. If their blood sugar is running high, their body's natural response is to eliminate the extra glucose by using the bathroom. Don't make them feel embarrassed by having to ask you for permission.

9. BE PATIENT.

Be patient if the student with diabetes has minor problems with organization. High and/or low blood sugar levels may make it difficult for them to concentrate at times. You may have to repeat some things, especially if they've been to the nurse's office during class time.

10. KEEP THE LINES OF COMMUNICATIONS OPEN.

Always work as a team with the student, caregivers, school nurse and other educators. If there is a special school party or occasion where "treats" are to be served, let the family know in advance, if possible. This allows the family to discuss the options with the child so that he or she can make responsible choices. Often, many treats can be worked into the child's meal plan.

11. KNOWLEDGE IS POWER.

Learn as much as you can about diabetes in children. Consider completing a training to enable you to perform essential key diabetes care tasks such as blood glucose monitoring and insulin and glucagon administration. Your willingness to learn about diabetes and being prepared to perform care tasks or provide supervision as necessary will ensure a safe classroom environment and enable your student to attain optimal academic performance.

For more information, go to www.diabetes.org or call 800-DIABETES.

References and Resources

Lucile Packard and Stanford University Resources

If you would like another **copy of this workbook**, you can download it for free from our website at <http://dped.stanford.edu/>

If you are interested in getting involved in one of our **clinical research studies**, ask us when you are in clinic, or check our website at <http://dped.stanford.edu/>

We offer **diabetes classes** on topics including advanced nutrition, insulin pumps and Type 2 Diabetes. Our class schedule can be found on our website at <http://dped.stanford.edu/patient-care/>

We also encourage you to sign up for our **email list** at <https://mailman.stanford.edu/mailman/listinfo/pediatricdiabetes>. You will receive our newsletter with information about research studies, events, camps and educational resources.

Lucile Packard **Financial Counseling**

Phone: (650) 497-8787

Services

Offers assistance in identifying insurance plans, prescription coverage, payment options and assistance covering medical expenses

Family Resource Library: Monday-Friday 10:00 am to 4:00 p.m.
(650) 497-8102, 3rd floor, Lucile Salter Packard Children's Hospital

Having someone to talk to, who has been through similar situations, is very helpful and comforting. We encourage you to speak to our social workers and to take advantage of **available community resources and parent support groups**.

Community Resources

American Diabetes Association, California Affiliate

4040 Moorpark Avenue, Suite 105

San Jose, CA, 95117

Phone: (408) 241-1922

Website: www.diabetes.org

Services: Information about diabetes, research, publications and more

Juvenile Diabetes Research Foundation (JDRF)

Greater Bay Area Chapter
49 Stevenson Street, Suite 1200

San Francisco, CA 94105

Phone: (415) 977-0360

Website: www.jdrf.org/greaterbay

JDRF International

Phone: (800) 533-CURE

Website: www.jdrf.org

Services

Fundraisers, research, mentoring programs, support groups, “Walk for a Cure” and more

The Diabetes Youth Foundation (DYF)

5167 Clayton Rd, Ste F Concord, CA 94521

Phone: (925) 680-4994 Email: info@dyf.org

www.dyf.org

Services

Summer camp for youth, teens and families (Bearskin Meadow Camp) and year-round programs.

Parent Support Groups

Juvenile Diabetes Research Foundation (JDRF) Mentoring Program

JDRF has a team of volunteers who understand the daily challenges and stresses of Type I diabetes. They will make contact with children and families who would like to connect with someone who has had experience in living with diabetes.

Phone: (503) 643-1995

Email: rberry@jdrf.org

“Coffee and Carbs”

A support group for parents that meets monthly in Los Altos

Contact: Tamar Sofer-Geri

Phone: (650) 464-4236

Email: tamar@geri.org

Tu diabetes

On-line support and community

<http://tudiabetes.com/>

Parents Helping Parents

Support and services to families of children with many special needs

Phone: (408) 727-5775

www.php.com

Brave Buddies

On-line support for parents with kids with diabetes

Contact: Tracy Weatherby

Phone: (650) 965-1050

E-mail: bravebuddies-request@familylist.com

Diabetes/Health Web Sites

Understanding Type 1 Diabetes (Pink Panther Book)

Published by: The Barbara Davis Center

<http://www.barbaradaviscenter.org/>

Children with Diabetes

www.childrenwithdiabetes.com

Calorie King (nutrition info)

www.calorieking.com

International Diabetes Federation

www.idf.org

The Diabetes Monitor

www.diabetesmonitor.com

American Dietetic Association

www.mealsforyou.com

Diabetes Mall (books and more)

www.diabetesnet.com

Diabetes Exercise and Sports Association

www.diabetes-exercise.org

Meals for you (recipes)

www.eatright.org

Free to Kids newly diagnosed with Diabetes: *Wizdom: A kit of wit and wisdom for kids and their parents.* Call 1-800-DIABETES or go to the ADA web site at www.diabetes.org/wizdom



Managing your Child's diabetes

Infants (0 to 2 years old)

Tips for Managing Infant Diabetes:

- Have a blood sugar target of 80 to 200 mg/dL
- Treat low blood sugar (lows) initially with 8 grams of fast acting carbohydrate (for example 2 oz. of juice or 2 glucose tablets)
- Adjust their insulin program around eating patterns
- Have supplies ready before blood tests and injections to minimize their stress
- Use play as a teaching tool (The book, [Rufus, the Bear with Diabetes](#) can help)

Toddlers (2 to 3 years old)

Tips for Managing Diabetes in Toddlers:

- Have a blood sugar target of 80 to 200 mg/dL
- Treat low blood sugar initially with 8 grams of fast acting carbohydrate (for example 2 oz. of juice or 2 glucose tablets)
- Have your child help with blood tests and injections, perhaps by having them place the test strip in the blood glucose meter or the lancet in the lancing device
- Get supplies ready before blood tests and injections to minimize stress
- Use stories, books and games as a teaching tool (The book, [Rufus, the Bear with Diabetes](#) can help)

Pre-school (4 to 5 years old)

Tips for Managing Diabetes in Preschoolers

- Have a blood sugar target of 80 to 200 mg/dL
- Treat low blood sugar initially with 8 grams of fast acting carbohydrate (for example 2 oz. of juice or 2 glucose tablets)
- Allow child to do their own blood sugar checks and push the plunger on the syringe
- Use reward systems to help with motivation and cooperation, such as sticker charts
- Avoid labeling blood sugar test results as "good" or "bad "
- Help child identify physical symptoms of low blood sugar
- Involve child in meal plan decisions
- Use stories, books and games as a teaching tool (The book, [Rufus, the Bear with Diabetes](#) can help)

School Age (6 to 11 years old)

Tips for Managing Diabetes in School Age Children:

- Have a blood sugar target of 70 to 180 mg/dL
- Treat low blood sugar initially with 15 grams of fast acting carbohydrate (for example 4 oz of juice or 3-4 glucose tablets). Your child may need less fast acting carbohydrates (8-10 grams) for mild lows (60-70 mg/dL).
- Include school lunches, parties, and special events into the meal planning
- Include the child's activities and lifestyle in the diabetes plan



Adolescence (12 and up)

Tips for Managing Diabetes in Adolescents

- Include the teen's activities and lifestyle in the diabetes plan
- Have a blood sugar target of 70 to 150 mg/dL
- Treat low blood sugar initially with 15 grams of fast acting carbohydrate (for example 4 oz of juice or 3-4 glucose tablets)
- Encourage teen to think of solutions to problems that come up regarding managing diabetes
- Begin to work on problem solving
- Allow independent visits with the health care team
- Watch for risk taking behaviors such as skipping insulin doses

Routine Testing – what does it all mean?

Growth and Weight Gain

When diabetes is in control, your child should grow and gain weight at a normal rate (following the growth curve in our chart). We measure your child's height and weight at each clinic visit.

Hemoglobin A1C

This blood test gives us a general picture of the overall control of diabetes over the last 3 months. This is very important and should be done every 3 months. . This test gives us an idea (combined with your blood glucose meter download) of what your child's blood glucoses are between clinic visits. The American Diabetes Association goal for HgbA1C is age specific. Talk to your physician or diabetes educator about your child's goal for HgbA1C and blood glucose control over time.

Thyroid Function Tests (T4, TSH)

Children with diabetes are at higher risk for thyroid problems. Some of the symptoms of thyroid problems are abnormally slow growth, being very tired all the time (fatigue), extra dry skin and loss of hair. These tests will be performed every year.

Screen for Celiac Disease

Children with diabetes are at higher risk of having celiac disease. Celiac disease is an allergy to the protein gluten. Some people with celiac disease have symptoms while others do not. The symptoms include stomach pain, gas, bloating, diarrhea and decreased height or weight. To screen for the disease a blood test is done to measure antibodies. This test will be performed routinely. If this blood test is positive, your child will be referred to a gastroenterologist for an intestinal biopsy to confirm the diagnosis.

Cholesterol

High levels of cholesterol can contribute to heart disease. A total cholesterol level should be done routinely based on age and risk. High-density lipid levels (HDL or "good" cholesterol as well as low -density lipids (LDL, or "bad" cholesterol) and triglycerides will be tested.

Urine Microalbumin

High blood sugar concentrations over a long period of time can cause a thickening of the membranes of the kidneys. When this damage starts, protein leaks into the urine. To monitor for early signs of kidney problems, we will order this test routinely. If we need to do any further testing we will let you know. Our goal is to catch changes early so that we can prevent kidney damage.

Eye Exams

High blood sugars over time can also damage the tiny blood vessels in your eyes. Your child will need to see an eye doctor who is trained in diabetes complications (ophthalmologist) on a regular basis. This doctor can dilate your pupils and check your blood vessels to make sure everything is normal.



Medic-Alert

Medic Alert is a nonprofit membership organization, started by a man whose daughter had a very severe allergic reaction.

Allergies, medical conditions, and medications can all have serious consequences or cause problems during an emergency. When your child wears a Medic Alert bracelet or neck chain, health care providers can know that your child has diabetes and takes insulin. This information could possibly save your child's life in an emergency.

Please fill out the form on the next page and send it in as soon as possible. It is very important for anyone with diabetes to wear a medic alert identification.

TO JOIN BY PHONE: call 1-888-633-4298 anytime or check out their website www.medicalert.org. Please have the following information available:

1. Credit card number and expiration date
 2. Medical information
 3. Name, phone numbers, and addresses of physician and emergency contacts
 4. Bracelet size if ordering a bracelet
 5. If your child has CCS health insurance, obtain a medic alert voucher which will allow you to obtain your identification free of charge
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Sharps Disposal

Disposing of used needles, syringes or lancets (sharps) in the garbage can injure family members, or your garbage collector. Properly disposing of your used sharps will help protect your family, community and the environment. State law makes it illegal to dispose of sharps waste in the trash or in recycling containers, and requires that all sharps waste be transported to a collection center in an approved sharps container.

Throwing away (Disposing) of Sharps

Sharps containers can be purchased at your local pharmacy and may or may not be covered by your insurance company. Once your sharps container is full, there are several options for getting rid of it depending on the county you live in.

On the websites below, the California Department of Public Health has information about proper sharps disposal and a directory that allows you to locate facilities that collect sharps in your county.

<http://www.calrecycle.ca.gov/HomeHazWaste/sharps/>

AND

<http://www.calrecycle.ca.gov/HomeHazWaste/sharps/Household.htm>

Collection programs include:

- o **Pharmacies.** Some pharmacies take back their customers' needles in a sharps container, especially in small quantities.
- o **Hospitals.** Hospitals may take back sharps from patients using regular outpatient services.
- o **Local Household Hazardous Waste Programs.** Call your local household hazardous waste agency and ask if they collect needles (sharps) at their collection facilities or on household hazardous waste days. You can also look for this information here:
 - Your local white pages' government section may list your city's or county's household hazardous waste department.
 - Visit the [Earth 911.org](http://Earth911.org) website or call 1-800-CLEANUP (1-800-253-2687), a service of Earth 911.

The California Department of Public Health website

<http://www.calrecycle.ca.gov/HomeHazWaste/sharps/>