

## Chapter 1

# The Importance of Education in Diabetes

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## INTRODUCTION

Families and children need to understand as much as possible about diabetes. A shorter book, *“A First Book for Understanding Diabetes”* is also available. It provides a synopsis of each of the chapters in this book, and may be easier for a family with a newly diagnosed child to read in the first week after diagnosis. The knowledge provided in this book and the skills learned will help them feel more secure about managing diabetes. It will help them manage problems when no doctor is available. It will also help them minimize hospitalizations for diabetes problems. Families who feel they can manage diabetes confidently maintain control, rather than the diabetes controlling them.

This book is written for families when diabetes is a new condition to them. It is also for those who have had the condition for a long time. It may serve as a reference that can be used with the doctor and diabetes team. It may also be used alone as a “refresher” course. Some of the chapters are written to provide very basic information. Other chapters are for readers wanting more in-depth information. Advances are taking place at such a rapid rate that new editions are needed about every three years. Families may choose to bring this book to clinic appointments. It can then be used as a guide for discussion and learning. This is particularly important in the first year after diagnosis.

## TOPICS:

# Diabetes Disease Process

# Monitoring Diabetes

## TEACHING OBJECTIVES:

1. Design a care plan that reflects the family’s lifestyle and the person’s educational level/developmental stage (also see Chapters 17, 18 & 19).
2. Design a care plan that allows the person/family to become skilled in the management of diabetes.

## LEARNING OBJECTIVES:

Learners (parents, child, relative or self) will be able to:

1. Identify basic management routines.
2. Assist the healthcare provider in developing a diabetes care plan.
3. Begin the process of understanding management through charting and recording blood sugars as directed by the healthcare provider.
4. Communicate blood sugars to healthcare provider.
5. Communicate concerns about high or low blood sugars to healthcare provider.

## OUTLINE FOR INITIAL EDUCATION (Table 1)

*Initial education is variable based on:*

- the day and time of diagnosis
- how sick the person is
- the emotional and physical readiness of the person and family to learn
- hospitalization versus outpatient care
- the availability of appropriately trained educators and healthcare team

It is **essential for all parents and guardians** (and often other care-providers) to be present for the initial education. Most families initially come to the clinic for six to eight hours per day for two days.

*The first day covers survival skills including:*

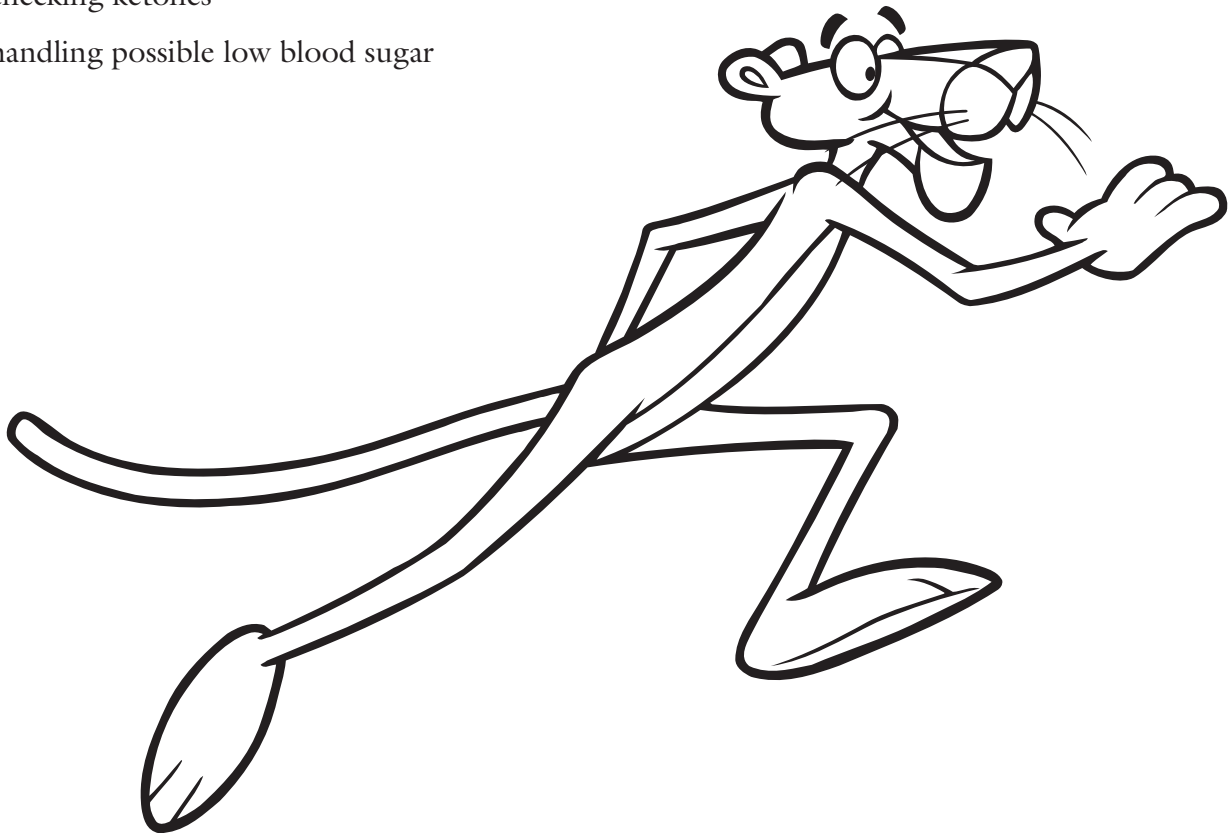
- ✓ use of the blood glucose meter
- ✓ drawing up insulin
- ✓ the giving of shots
- ✓ checking ketones
- ✓ handling possible low blood sugar

Topics are covered in the order of importance. How much is covered the first day depends on the families' emotional state and readiness to learn.

They then return for group and individual education and care after approximately one week. Families are not expected to remember all the information the first time. Written guidelines are always given to the family at each visit to ensure safety at home. Review and reinforcement of basic concepts occur at each visit. The content of this book should be used for periodic review as needed.

*Helpful ways to continue learning are:*

- writing down questions and making notes
- websites: [www.ChildrenWithDiabetes.com](http://www.ChildrenWithDiabetes.com) or [www.BarbaraDavisCenter.org](http://www.BarbaraDavisCenter.org) (please see the back of the book for additional website addresses)
- video tapes and library books
- the Pink Panther™ "*First Book for Understanding Diabetes*" provides a synopsis



of each of the chapters in this book. Some families start with the synopsis book the first week.

- parent and child educational group meetings

The topics considered important for initial diabetes education by the American Diabetes Association (ADA) are outlined at the beginning of this publication (page 1). The chapters where each of these topics is covered are also shown. Please let your diabetes healthcare provider know if there are topics which apply to you/your child that are unclear or ones which you would like to spend more time discussing.

It is essential that families know how to recognize and handle low blood sugar from day one. Anyone who has received insulin has the potential to have low blood sugar. Families must understand the causes, signs and treatment of mild to severe low blood sugar, including treatment with gel or glucagon. The educator will discuss this with you. It is the topic of Chapter 6.

## CONTINUING EDUCATION

*Following initial education, the family usually returns to the clinic:*

- in one week
- after four weeks
- after eight weeks
- and then every three months

This may vary for different families and different clinics. Clinic visits every three months should include an evaluation of the family's current diabetes management. Modifications to care are made with feedback from the person and family. Children who were too young to learn self-care when diagnosed with diabetes will need age-appropriate on-going education. Clinic visits every three months with the healthcare team can assist in their learning process.

Children who develop diabetes prior to age 10-13 will need to learn specifics about the disease as they are ready. A science project on diabetes is one way to encourage learning and self-discovery. This book can provide information for such a report.

The diabetes nurse educator may start working on chapters in the book with the child alone. This can encourage the child to ask and answer questions. Education from *all* the diabetes team members should continue with the every three-month clinic visits. We feel a solid educational foundation and the development of good habits will help the person to stay in good diabetes control throughout life. With a supportive family and good habits, the need for later diabetes-related hospitalizations or problems is reduced.

## FAMILY RESPONSIBILITIES

Diabetes is a unique disease. It requires on-going communication and assistance between the person and/or significant others in all areas of the day-to-day care. **A knowledgeable and supportive family is very important for good diabetes care.** This is discussed in more detail in Chapter 17, Family Concerns.

*Families must assume responsibility for:*

- consistency in meals, snacks, shots
- doing blood sugar checks as directed
- insulin injections (type 1), oral medicines and/or insulin (type 2)
- blood or urine ketone checks
- ordering and having supplies available
- communication with day care/school or work
- contacting healthcare providers for insulin adjustments between routine visits when blood sugar numbers are out of the desired range

**It should be apparent that the family does 95 percent of the diabetes management.**

**Table 1**

## **Topics Covered After New Diagnosis**

<b>1st Day in Hospital or Clinic</b>	<p>Different clinics have different schedules for education of newly diagnosed families. Education may be done primarily in the clinic setting (after discharge if hospitalization was necessary). Day one usually involves learning skills needed for care in the home setting.</p> <p><i>These include:</i></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Blood sugar testing on a specific meter (Chapter 7)</li> <li><input type="checkbox"/> Learning about insulin (Chapter 8)</li> <li><input type="checkbox"/> How to draw up and administer insulin (Chapter 9)</li> <li><input type="checkbox"/> Urine ketone measurements (Chapter 5)</li> <li><input type="checkbox"/> Recognizing the signs of low blood sugar and how to treat (Chapter 6)</li> </ul> <p>We write specific instructions (see Table 2) for the family (meals, snacks, when to test blood or urine and how to record results, and when to phone us) for the period until returning to the clinic. The dietitian may discuss ideas for meals and snacks.</p> <p><i>Any of the following may be covered:</i></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> The Importance of Education in Diabetes (Chapter 1)</li> <li><input type="checkbox"/> What is Diabetes? (Chapter 2) And how do we know you have it?</li> <li><input type="checkbox"/> What Causes Diabetes? (Chapter 3)</li> <li><input type="checkbox"/> Blood Sugar Testing (Chapter 7)</li> <li><input type="checkbox"/> Insulin (Chapter 8)</li> <li><input type="checkbox"/> Insulin Injections (Chapter 9)</li> <li><input type="checkbox"/> Practice injection technique</li> <li><input type="checkbox"/> Urine or Blood Ketone Testing (Chapter 5)</li> <li><input type="checkbox"/> Low Blood Sugar (Chapter 6)</li> </ul>
<b>Day Two: a.m.</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Review above concepts and answer questions</li> <li><input type="checkbox"/> Review insulin and insulin injection technique</li> <li><input type="checkbox"/> Review Low Blood Sugar (Chapter 6)</li> <li><input type="checkbox"/> Normal Nutrition (Chapter 11) and meet with dietitian</li> <li><input type="checkbox"/> Food Management and Diabetes (Chapter 12)</li> <li><input type="checkbox"/> Prescriptions for supplies</li> <li><input type="checkbox"/> Communication plan for the next week</li> </ul>
<b>Day Two: p.m.</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Grief-Adjustment Issues (Chapter 10) and meet social worker</li> <li><input type="checkbox"/> Review of specific routines and recommendations for exercise (Chapter 13)</li> <li><input type="checkbox"/> Monitoring Blood Sugar Control (Chapter 14)</li> <li><input type="checkbox"/> Complete the care plan for school/daycare</li> <li><input type="checkbox"/> Adjusting insulin (Chapter 21; if appropriate)</li> <li><input type="checkbox"/> Review the two emergencies of diabetes (Table 3, Chapter 15)</li> </ul>
<b>Day Three:</b> (variable with Day 2 and 1 Week Visit)	<ul style="list-style-type: none"> <li><input type="checkbox"/> Review above concepts and answer questions</li> <li><input type="checkbox"/> Family Concerns (Chapter 17) and reducing fears of shots and pokes</li> <li><input type="checkbox"/> The Outpatient Management of Diabetes (Chapter 20)</li> <li><input type="checkbox"/> Long-Term Complications of Diabetes - if questions (Chapter 22)</li> </ul>
<b>At One-Week/1 Month Visit</b> (may include Day 3 topics)	<ul style="list-style-type: none"> <li><input type="checkbox"/> Review all of the above</li> <li><input type="checkbox"/> Review Ketonuria and Acidosis (Ketoacidosis; Chapter 15)</li> <li><input type="checkbox"/> Sick-Day Management (Chapter 16)</li> <li><input type="checkbox"/> Problem solving and/or quiz</li> <li><input type="checkbox"/> Baby-Sitters and Diabetes (Chapter 24)</li> <li><input type="checkbox"/> Vacations and Camp (Chapter 25)</li> <li><input type="checkbox"/> Long-Term Complications of Diabetes - if questions (Chapter 22)</li> <li><input type="checkbox"/> Pregnancy and Diabetes (Chapter 27)</li> <li><input type="checkbox"/> Problem solving and/or quiz</li> <li><input type="checkbox"/> Research and Diabetes (Chapter 28)</li> </ul>

## Table 2

*This is a general plan. The timing is varied and length of education depends on the emotional and physical readiness of the family to learn. Also, the plan may change if the person is hospitalized versus when treated only in the clinic. A trend in recent years has been to teach survival skills in the first two days, and to make the visit at one week (when stress is lower) a longer and more in-depth visit.*

### New Patient First-Night Instructions for \_\_\_\_\_

#### A. *The diabetes supplies you will need the first night include (your nurse will mark which you need):*

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Blood glucose meter | <input type="checkbox"/> Meter test strips  | <input type="checkbox"/> Alcohol swabs      |
| <input type="checkbox"/> Ketone check strips | <input type="checkbox"/> Glucose gel & tabs | <input type="checkbox"/> Log book           |
| <input type="checkbox"/> Insulin             | <input type="checkbox"/> Syringes           | <input type="checkbox"/> Phone contact card |

The first night you will either get your insulin injection at our clinic, or you will give the shot at home or where you are staying.

#### B. *If the insulin is given while at the clinic:*

- 1. Rapid-acting insulin (Humalog®, NovoLog® or Apidra®) has been given; eat within 10-15 minutes.
- 2. Regular insulin has been given, try to eat your meal within 30 minutes – or – have a snack containing carbohydrates on the way home if it will be more than 30 minutes.
- 3. One of the above insulins and a longer-lasting insulin will be given to cover overnight insulin needs.
- 4. Allow your child to eat until their appetite is satisfied, avoiding high sugar foods (especially regular sugar pop and sweet desserts).

#### C. *If the dinner insulin is to be given at home:*

1. Check your child's blood sugar right before your meal. Enter the result into the log book.
2. Check for urine ketones if directed. Enter the result into the log book.
3. Call Dr. \_\_\_\_\_ at \_\_\_\_\_ or page at \_\_\_\_\_ for an insulin dose.

**Give this dose:** \_\_\_\_\_.

4. Draw up and give the insulin injection right before your meal (see Chapter 9). If your child is not very hungry or is tired, you can give the shot after they eat and call the physician with any dose questions.
5. Eat your meal, allowing your child to eat until their appetite is satisfied. Avoid high sugar foods.

#### D. *Before Bed:*

1. Check your child's blood sugar. Enter the result into the log book.
2. Check for urine ketones if directed. Enter the result into the log book.
3. Call your physician at the numbers listed above if your child's blood sugar is below \_\_\_\_\_ or above \_\_\_\_\_, or if urine ketones are "moderate" or "large". If urine ketones are "trace" or "small", have your child drink 8-12 oz of water before going to bed.
4. Give an insulin injection if your physician instructs you to do so. (Dose, if ordered \_\_\_\_\_.)
5. Have your child eat a bedtime snack. Some ideas for this snack include: cereal and milk, toast and peanut butter, a slice of pizza, yogurt and graham crackers or cheese and crackers. (See Chapter 12, Table 6 in the Pink Panther book for other ideas.)

#### E. *The morning before coming to the clinic:*

1. If your physician has instructed you to give the morning insulin at home before coming in, follow the steps listed above (see letter "C") and give dose as directed by MD before eating breakfast.
2. If you have been instructed to wait to give the morning dose until after coming to the clinic, do a blood sugar test and a urine ketone test if directed upon awakening (if blood sugar is less than 70, give 4-6 oz of juice promptly).  
Write the blood sugar and urine ketone results in your log book.
  - Eat breakfast at home, and then come to the clinic for your insulin injection.
  - Bring your breakfast to the clinic, and you will eat it after the insulin has been given.
3. Please bring all blood testing supplies and materials you received the first day back to the clinic (including your log book, Pink Panther book, insulin and supplies).

