J. Stephen Fountain, PhD
In cooperation with the Diabetes Education Center, Lancaster, SC

The Diabetes Education Center's Developmentally Appropriate Education (DADE) Project

Resource 2:

Diabetes Initiative of South Carolina Model Diabetes Education Program (Pediatric Curriculum) Assessment and Revision for 6-8-year-olds

Pediatric Curriculum Assessment and Revision

Suggestions for using the Model Education Program's Pediatric Protocols for 6-8-year-olds

General Assessment and Recommendations

The Model Education Program's Pediatric Curriculum is made up of 9 educational protocols, presented in the following divisions a) Learner Objectives/Outcome Standards b)Content c)Teaching Methodology and Evaluation.

For the purposes of this project, appropriate **Learner Objectives/Outcome Standards** have been highlighted on a photocopy of the pediatric curriculum. Those objectives/standards which have not been highlighted may be appropriate for some 6-8-year-old students, but are generally not appropriate for that developmental stage.

The practitioner should study/attend the inservice training on the handout "**Developmental Characteristics of the 6-8-year-old**," created as part of this project.

The Model Education Program's Pediatric Curriculum uses the following developmental-age categories: 4-7 year old, 8-10 year old, and 11-13 year old. In order to more appropriately reflect developmental stages and to more effectively present material, we recommend the following **developmental-age categories**:

- 4-5 year olds
- 6-8 year olds
- 8-10 year olds
- 11-13 year olds
- 13-15 year olds

The **content** of the 9 protocols should, as before, be simplified or condensed as time and the educational needs of the patient and caregiver warrant. Content should always be chosen and modified with Learner Objectives/Outcome Standards and methods of assessment already in mind. We recommend following a "Backward Design" model for the production of individual students' curricula. **See "Using a Backward Design Approach to Diabetes Education" at the end of this section.**

Teaching Methodology/Evaluation resources and suggestions are given in each of the protocols to follow. We recommend updating and modifying these as necessary. This project's scope has allowed the creation of an introductory dramatic/musical game exercise based on materials already in use. We recommend the use of such a foundational exercise in the earliest protocol, to which reference in subsequent experiences may be made.

Additional General Resources:

- www.kwdmagazine.com
- www.bayercarediabetes.com
- www.diabetes.org
- www.diabetes.org/wizdom
- www.aadenet.org
- www.niddk.nih.gov
- "Diabetes Management in Children/Adolescents," Sharon Schwarz, RN, MSN, CDE, MUSC Pediatric Endocrinology (843-876-0476) Handout included in this project's materials
- www.jdrf.org (Juvenile Diabetes Foundation)
- www.eatright.org (The American Dietetic Association)
- www.childrenwithdiabetes.org
- "What Happens When You Get Diabetes?" and "All About Ketones" Chapters from ------, included in project materials
- http://www.ascd.org/readingroom.html
- http://www.crec.org/tls/ubd.shtml

Using a Backward Design Approach to Diabetes Education

Based on "Understanding by Design" by Grant Wiggins and Jay McTighe, 1998 **See also "What is Backward Design?" included in Project Materials**

1. Identify desired results:
Based on Teaching Protocols, Learner Objectives/Outcome Standards.

2. Determine acceptable evidence:
How will I know that the learner has fully met the objectives?

3. Plan learning experiences:

Keep developmental milestones in mind as well as individual characteristics of the particular child.

4. Facilitate learning experiences with child and caregivers.

5. Assess using tactics from number 2.
Has the child met the critera? Where have the learning activities fallen short?

6. Re-teach

Protocol-specific Assessment and Revision of the Curriculum

PEDIATRIC PROTOCOL 1: DIABETES DISEASE PROCESS

Learner Objectives/Outcome Standards: See highlighted objective and outcome standards on photocopy of protocol.

Content: As contained in protocol. Abbreviate and simplify as necessary based on time and learner needs/ability.

Teaching Methodology/Evaluation

1. Read "What happens when you get diabetes." If possible, a "big book" of the text should be made and laminated. Depending on the child's reading level, let her help with the reading.

2. Dramatize the process of blood receiving "insulin key" to assist in delivery of glucose to the body cells. Use the song "We are the beta cells that don't make insulin." See the suggested set-up for this activity in the project materials. You will likely want to play this game as a review throughout the curriculum.

PEDIATRIC PROTOCOL 2: NUTRITION MANAGEMENT

Learner Objectives/Outcome Standards: See highlighted objective and outcome standards on photocopy of protocol.

Content: As contained in protocol. Abbreviate and simplify as necessary based on time and learner needs/ability.

Teaching Methodology/Evaluation

1. Listen to recording of "The Market" by Gregg and Steve. Review the proteins mentioned in the song. Look through magazines to find proteins and create a protein/carbohydrate (etc) collage.

2. With the child and the caregiver, create a diabetic food pyramid like those found in diabetic food guides. This can be done with any number of art supplies, particularly

collage with magazine pictures or digital photographs taken of the child's own foods at home. The pyramid should be as large as possible; consider a large cut-out pyramid on the floor.

PEDIATRIC PROTOCOL 3: MEDICATIONS

In general, this protocol is not appropriate for the 6-8 year old herself, but for the caregiver. The educator should teach the caregiver(s) following either the current pediatric or adult protocol, and should discuss the mechanisms of action of the various medications only in the most rudimentary of terms. Of course, most juvenile diabetes patients will not be taking oral medications, and will already be familiar with the actions of insulin from the contents of other protocols.

PEDIATRIC PROTOCOL 4: PSYCHO-SOCIAL

Learner Objectives/Outcome Standards: See highlighted objective and outcome standards on photocopy of protocol.

Content: As contained in protocol. Abbreviate and simplify as necessary based on time and learner needs/ability.

Teaching Methodology/Evaluation

1. After reviewing "It's Time to Learn About Diabetes," make a venn-diagram with the patient, discussing ways he/she is the same as and different from peers. Discuss ways to handle situations that may arise with peers.

2. Make pictures of different situations which may be caused or not by the child (use before and after if appropriate, in two or more frames). Examples: the sun coming up, a glass of milk spilling, a room becoming clean, a blank canvas and a painting, and a child with diabetes (perhaps with an insulin pump). The point is that there are things that the child can cause and things she cannot, like having diabetes. Have the child explain how she can cause each effect or not. This can then lead into a discussion of the ways that the learner will take responsibility for self-care.

3. Talk about the learner's ID bracelet. Perhaps make giving the bracelet to the child a special occasion.

4. Plan a trip. Act out packing necessary items and unnecessary but desired items. Stress that diabetes supplies are necessary when traveling, and need to be accessible. Follow up: have a cutout of a suitcase divided into two columns: need to take, want to take. Draw or paste or write items in their appropriate column with the learner.

PEDIATRIC PROTOCOL 5: MONITORING

Learner Objectives/Outcome Standards: See highlighted objective and outcome standards on photocopy of protocol.

Content: As contained in protocol. Abbreviate and simplify as necessary based on time and learner needs/ability.

Teaching Methodology/Evaluation

1. Play the "insulin key" game again. Discuss the effect of high blood sugar on the body cells. Ask "how do you know" that the body cells are not getting enough energy? How do we know how much glucose is in the blood?

2. Have the learner act out the role of caregiver monitoring the BG of a doll "with diabetes" (preferably one of her own).

3. For the older learner, if appropriate, ketone monitoring may be discussed by reading "All about Ketones" and relating ketones to the "insulin key" game. Likewise, HgbA1C monitoring may be taught with reference to the blood cells swimming in all that sugar in the bloodstream (as dramatized by the child).

PEDIATRIC PROTOCOL 6: PHYSICAL ACTIVITY

Learner Objectives/Outcome Standards: See highlighted objective and outcome standards on photocopy of protocol.

Content: As contained in protocol. Abbreviate and simplify as necessary based on time and learner needs/ability.

Teaching Methodology/Evaluation

1. Once again, play the "insulin key" game. This time, have the body cell doing work or exercise and demanding (verbally) more and more glucose. Allow the child to figure out that glucose will need to be supplied, and that it will be depleted quickly. Ask what will happen to the body when levels go down.

2. Have the child write and illustrate a book called "Exercise that I can do." It should be filled with 5 or 6 examples, pictures and text, of various ways that **the child can and does** get exercise.

3. Have the child come up with the "four safety rules" based on the "insulin key" game. You may want to reduce this number in younger children.

PEDIATRIC PROTOCOL 7: ACUTE COMPLICATIONS

Learner Objectives/Outcome Standards: See highlighted objective and outcome standards on photocopy of protocol.

Content: As contained in protocol. Abbreviate and simplify as necessary based on time and learner needs/ability.

Teaching Methodology/Evaluation

1) Having recently discussed the "rules for exercise," the child will be ready to discuss the symptoms and treatment of hypoglycemia. Act out a situation in which the child gets low blood sugar (no breakfast, goes out to play). Have the child describe and act out what to do. Have the child be specific about fast carb sources.

2) Play the "insulin key" game again, emphasizing the causes of hypoglycemia and its treatment. Add "sick day management" to the reasons that body cells might be more demanding.

PEDIATRIC PROTOCOL 8: CHRONIC COMPLICATIONS

Learner Objectives/Outcome Standards: See highlighted objective and outcome standards on photocopy of protocol.

Content: As contained in protocol. Abbreviate and simplify as necessary based on time and learner needs/ability.

Teaching Methodology/Evaluation

1) Play the "insulin key" game again, but don't supply enough insulin. This time the play takes place inside a noncompliant person's body. Explain that the blood stream will be clogged with glucose, and that the body cells won't get enough energy. Ask "What do you think might happen? Is this going to be good for. . .(blood flow, the eyes, the kidneys, etc)" Explain that germs love sweet blood, so "what will happen if Mr Noncompliant gets a cut or a sore?"

2) Trace the child's outline on a large piece of paper on the floor. Have the child and caregiver(s) draw or cut and paste various body parts to the appropriate place on the cutout. Discuss the function of the various organs (skin included), and the effect of chronic high BG on them.

3) Have the child write/draw a story about her last visit to the doctor.

PEDIATRIC PROTOCOL 9: GOAL SETTING/PROB. SOLVING

Learner Objectives/Outcome Standards: See highlighted objective and outcome standards on photocopy of protocol.

Content: As contained in protocol. Abbreviate and simplify as necessary based on time and learner needs/ability. Empowerment, goal-setting and coping content should be primarily directed toward the caregiver.

Teaching Methodology/Evaluation:

1) Have pictures of various "helpers" in the learner's life: discuss why each is needed. Include firefighters, police officers, etc as well as patient, family and health care team.

2) As patient has encounters with each member of the health care team, ask caregiver to record with a digital or film photo. Help the child assemble a scrapbook of his helpful friends.

3) Discuss long and short term goals by use of a map/maze, including places you want to go (appropriate blood sugars, energy, exercise, good diet, etc) and places you don't (complications, etc). Compliant, responsible behaviors mark the roads that lead to the places you want to go, and noncompliant behaviors mark the roads to places you don't want to go.