

Insulin Administration in School Settings Training Program Manual

Kentucky Board of Nursing (KBN)
2014 Edition



Developed and Edited by:

Pat Glass, RN
Director Nursing Services/Health Coordinator
Jessamine County Schools

Stephanie Jensen, BSN, RN, CDE
Diabetes Nurse Educator
Kosair Children's Hospital
University of Louisville Pediatrics-Endocrinology

Becki Thompson, BSN, RN, CDE
Kentucky Department of Public Health
Kentucky Diabetes Prevention & Control Program

Pamela C. Hagan, MSN, RN
APRN Education & Practice Consultant
Kentucky Board of Nursing

Published by:

Kentucky Board of Nursing
312 Whittington Parkway, Suite 300
Louisville, KY 40222
(502) 429-3300

July 2014

For more information about the *Insulin Administration in School Settings Training Program Manual*, please contact the Kentucky Board of Nursing, 502-429-3307, KBN Nursing Practice Consultant.

ACKNOWLEDGMENTS

American Diabetes Association

Jessamine County School System

Kentucky Department of Public Health, Kentucky Diabetes Prevention and Control Program

Kentucky Department of Education

Kosair Children's Hospital

The Kentucky Board of Nursing would like to acknowledge the previous work done by the Virginia Department of Education in an original version of this manual and for their permission to adapt and revise their document.

Special appreciation is extended to individuals who served on the KBN Advisory Group for Insulin Administration in the School Setting for their input and assistance in the review of the manual.

Sandi K. Clark, RN
School Health Consultant/Maternal & Child Health
Cabinet for Family and Health Services/Department of Health

Mechelle R. Coble MS, RD, LD, CDE
Diabetes Coordinator
Lincoln Trail District Health Department

Teresa T. Combs, JD
Director of Legal & Administrative Training Services
Kentucky School Boards Association

Gary Dougherty
Associate Director
State Government Affairs
American Diabetes Association

Sandy England, BSN, RN
Representative of Kentucky Association of School Administrators
School Health Coordinator
Monroe County School

Karen Erwin, RN, MSN
Education School Nurse Consultant
Kentucky Department of Education

Norma Flores
Assistant Superintendent
Catholic Diocese- Lexington

James Flynn
President
Kentucky Association of School Superintendents

Meredith Gault
Executive Director
Juvenile Diabetes Research Foundation

Kathy Hager, DNP, FNP-BC, CDE
Kentucky Nurses Association Representative

Angela Hayes, APRN
School Nurse Practitioner
Jefferson County Public Schools Health Services

Malicia T. Hitch
Staff Attorney
Protection and Advocacy

Joy Hoskins RN, BSN, BA
Chief Nursing Officer
Director, Division of Women's Health
Kentucky Department for Public Health

Janice Jackson, Consultant, Parent Representative
Kentucky Parent Teachers Association

Sarah M. Lawrence, PharmD, MA
Strategic Consultant Pharmacist

Angela (Angie) Littlepage, President
Southside – Hopkins County
Kentucky Parent Teachers Association

Wendi Morgan RN
President
Kentucky School Nurses Association

Stewart Perry, LUTCF
State Farm Insurance
State Advocacy Volunteer Chair
Past Chair of National American Diabetes Association

Lisa Petrey-Kirk
Vice President
Kentucky Education Association (KEA)/
Kentucky Education Support Personnel Association (KESPA)

Theresa A. Renn, RN, CDE
Manager
Kentucky Diabetes Prevention and Control Program

Heidi Schissler Lanham
Legal Director
Protection and Advocacy

Wilson Sears
Executive Director
Kentucky Association of School Superintendents

Eva Stone, APRN
School Health Coordinator
Kentucky Public Health Association- School Health Section Chair

Denny Vincent
Executive Director
Kentucky Association of Secondary School Principals

Carmel Wallace, Jr., MD, FAAP
Professor and Chair
Department of Pediatrics
University of Kentucky
Physician-in-Chief, Kentucky Children's Hospital

Kupper Wintergerst, MD
Pediatric Endocrinologist
University of Louisville
University Pediatric Endocrinology

Wayne Young
Executive Director
Kentucky Association of School Administrators

TABLE OF CONTENTS

SECTION 1

Background Information.....	7
Highlights of the Training Program Manual.....	7
Kentucky Laws and Regulations Authorizing Diabetes Care in School Settings	8
Parameters of Training.....	9
Content of Training Curriculum	10

SECTION 2

Module A: Rights and Responsibilities	11
Module B: Incidence of Diabetes in Kentucky School Children.....	20
Module C: Overview of Diabetes	21
Module D: Authorization for Treatment.....	24
Module E: Principles of Medication Administration.....	25
Module F: Diabetes Medical Management Plans & Individualized Health Plans.....	30
Module G: Therapeutic Management of Diabetes	32
Module H: Monitoring the Student with Diabetes.....	39
Module I: Insulin Administration	45
Module J: Hypoglycemia.....	52
Module K: Hyperglycemia	57
Module L: Storage and Disposal of Medical Supplies	59
Module M: Documentation.....	61
Module N: Emergency Care Plan	62
Resources and References.....	63
Appendices.....	67

BACKGROUND INFORMATION

The Insulin Administration in School Settings Training Program provides a framework for local school districts to implement the KBN regulation 201 KAR 20: 400 for registered nurses to delegate to unlicensed school personnel in the school setting the nursing act of administration of insulin to students. In order to ensure that local school districts are adequately prepared to administer insulin and glucagon to school age children with diabetes and to provide continuity in training school personnel, the Kentucky Board of Nursing developed a standardized training program for registered nurses or physicians to educate and validate the competency of those unlicensed personnel to whom administration of insulin and glucagon may be delegated.

Highlights of Training Program Manual

The purpose of this training program manual is to provide the registered nurse or physician with the tools to equip designated school personnel to competently, safely and confidently provide care to the student with diabetes when insulin administration is delegated by a registered nurse to non-licensed school personnel in the school. This training program manual provides information and tools that should be included in training programs for school personnel, resources for further information, and sample documents. Basic information regarding diabetes, a glossary (Appendix A), a list of acronyms commonly used in the training (Appendix B) for diabetes management in school settings, guidance in selecting appropriate training personnel, setting up the training session, and diabetes resources for teachers and parents/guardians are included. This manual provides the registered nurse or physician trainer with a comprehensive teaching tool. The school nurse has multiple functions in the care of the student with diabetes. The role of the school nurse includes:

- case management;
- direct care;
- development of the Individualized Health Care Plan (IHP)
- training, delegation, and supervision of unlicensed school personnel administering insulin and glucagon; and
- evaluation of care provided to the student.

According to the National Association of School Nurses, “An Individualized Health Plan (IHP) developed by the school nurse documents and communicates the student’s needs and the school’s management strategies for that student in the school setting.” (2006) The school nurse develops the IHP based upon the Diabetes Medical Management Plan (DMMP), input from a parent/guardian, and a nursing assessment.

KENTUCKY LAWS AND REGULATIONS AUTHORIZING DIABETES CARE IN SCHOOL SETTINGS

The Kentucky General Assembly passed legislation that provides guidance with respect to the management of diabetes in the school setting. The following references outline the provisions in the *Kentucky Revised Statutes*.

- *KRS 156.501 Student health services -- Responsibilities of Department of Education and Department for Public Health -- Filling of position --Funding*
- *KRS 156.502 Health services in school setting -- Designated provider – Liability protection*
- *KRS 158.838 Emergency administration of diabetes and seizure disorder medications -- Required written statements -- Limitation on liability ---Renewal of permission -- Expiration dates of medication--Self performance of diabetes care tasks—Diabetes or seizure disorder not to prevent attendance at school the student would ordinarily attend*
- *KRS 314.011 Provides definitions of registered nursing practice and delegation*
- *201 KAR 20:400 Delegation of nursing tasks*

Specific statute and regulation references may be accessed online, utilizing the Kentucky Legislative Research Commission at <http://www.lrc.ky.gov/statutes/index.aspx> and <http://www.lrc.state.ky.us/kar/TITLE201.htm#chp020>

Parameters of Training for Insulin Administration in School Settings Training Program

The Kentucky Revised Statutes and the Kentucky Administrative Regulations establishes the legal basis for providing diabetes training for unlicensed personnel in the school setting.

Kentucky Revised Statutes Chapter 314 and Kentucky Administrative Regulations 201 KAR 20: 400 identify medication administration as a part of nursing practice and authorizes the nurse to teach and delegate as appropriate

Excerpts of KRS 314 and 201 KAR 20 may be found in Appendix C.

I. Parameters of Training

- A. Qualifications of instructional personnel. The trainer should be:
 - 1. A registered nurse (RN), advanced practice registered nurse (APRN) or licensed physician with a current Kentucky license and training and experience in the management of diabetes in children and adolescence.
 - 2. Understanding of relevant sections of laws and regulations, such as Individuals with Disabilities Education Act (IDEA); Rehabilitation Act of 1973, Section 504; and Occupational Safety and Health Act (OSHA).
- B. The Insulin Administration in School Settings Training Program should be conducted over a sufficient period of time to ensure competency both in knowledge and skill through competency checklists and an examination. The training course should include competency demonstration.
- C. Knowledge and skills may be maintained through an annual course, examination and competency validation each school year in order to determine competency and for competency to be demonstrated. The delegation to a school employee shall be valid only for the current school year [KRS 156.502 (2)(d)2.]
- D. Training should be documented and should include the instructor's name, trainee's name, date of training, skills checklists, and documentation of competency and that the school employee possesses sufficient training and skills, and has demonstrated competency to safely and effectively perform the health service. Forms for competency validation checklists and other appropriate documentation are included in Appendix D.

Content of the Training Program

The content of the training program has been organized into separate topics. Each topic covers required training components consistent with training programs and guidelines developed by the American Diabetes Association and was reviewed by an Advisory Group of interested stakeholders including physicians, nurses, teachers, school principals, administrators, and other administrative staff.

Medical management of diabetes is constantly changing and the scope of the training material reflects current practice. The topics contained in this program include:

- A. Rights and Responsibilities
- B. Incidence of Children in Schools with Diabetes
- C. Overview of Diabetes
- D. Authorization for Treatment (DMMP)
- E. Principles of Medication Administration
- F. Diabetes Medical Management Plans
- G. Individualized Healthcare Plan
- H. Hypoglycemia
- I. Glucagon Administration
- J. Hyperglycemia
- K. Monitoring Ketones
- L. Therapeutic Management – Carbohydrate Counting
- M. Blood Glucose Monitoring
- N. Insulin Administration
- O. Storage and Disposal of Medical Supplies
- P. Documentation
- Q. Emergency Plans
- R. Resources and References
- S. Appendices

MODULE A RIGHTS AND RESPONSIBILITIES APPLICABLE FEDERAL AND STATE LAWS

The rights and responsibilities of the student, physician, parent or guardian, administrator, and the trainee shall be consistent with relevant state and federal laws and local school board policy.

Federal laws that may apply to children with diabetes include the Rehabilitation Act of 1973, Section 504; Title II of the Americans with Disabilities Act (ADA) of 1990; the Individuals with Disabilities Education Act (IDEA) of 1990, amended 1997 and 2004; and federal regulations 34 C.F.R. 300.7 (9)(i), Child with a Disability.

State laws include KRS 156.501, KRS 156.502, KRS 158.838 and KRS 314.011.

1. Individuals with Disabilities Educational Act (IDEA);

The United States Congress, in 1975, passed Public Law 94-142, The Education for All Handicapped Children Act. This legislation is now referred to as Individuals with Disabilities Education Act or IDEA. It is an educational bill of rights for children. Kentucky public schools serve children 3-21 years of age. The basic rights guaranteed to students with disabilities include the following:

- A free appropriate education for all children.
- An education in the least restrictive environment based on the child's needs.
- An assessment of needs that is racially and culturally unbiased and is given in the child's native language or mode of communication.
- An individualized education program (IEP).
- Due process and a procedure for complaints to ensure the rights of the individual.

In 1986, 1990, 1991, 1997, and 2004, Public Law 94-142 was amended: however, the basic rights of children with disabilities did not change. These rights continue to provide protection against discrimination for children with disabilities, including those with diabetes.

IDEA Regulations define "disability." The definition includes a category for chronic or acute health problems that limit the individual's "alertness with respect to the educational environment" (U.S. Department of Education, n.d.). This category is called "other health impairment" (OHI). Diabetes, as well as other health conditions such as asthma and epilepsy, is included in the examples. IDEA information may be accessed online at:

http://idea.ed.gov/explore/search?search_option=all&query=diabetes&GO.x=7&GO.y=5

2. Section 504 of the Rehabilitation Act of 1973:

Section 504 of the Rehabilitation Act of 1973 protects individuals with disabilities against discrimination because of their disability, in any program or activity receiving federal financial assistance, including public schools (U. S. Department of Education, 2010). Students with disabilities have the right to “a free and appropriate public education” (FAPE), regardless of the nature or severity of the person’s disability. FAPE includes an equal opportunity to access educational services as adequately as nondisabled students.. This protection includes equal opportunity to participate in school activities: academic, nonacademic, and extracurricular.

In order to provide for the needs of a student with disabilities while at school, school officials (and parents/guardians) may develop a Section 504 Plan. In the case of a student whose disability is diabetes, a Section 504 Plan would outline the diabetes care and/or assistance the student needs in order to access the education environment. Schools may place health care needs on an Individual Education Program (IEP). Samples of accommodations might include such things as providing for the administration of insulin or glucagon, allowing the student free access to food or drink, or assisting the student with blood glucose checks. Information on Section 504 may be accessed online at: <http://www2.ed.gov/about/offices/list/ocr/docs/edlite-FAPE504.html>

School districts may have their own form for developing a Section 504 Plan. The American Diabetes Association webpage has a sample Section 504 Plan available online at: <http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/written-care-plans/section-504-plan.html>

3. The Americans with Disabilities Act

The Americans with Disabilities Act, Title II “requires that State and local governments give people with disabilities an equal opportunity to benefit from all of their programs, services, and activities (e.g. public education, employment, transportation, recreation, health care, social services, courts, voting, and town meetings) (U. S. Department of Justice, 2005). This law generally prohibits all schools from discriminating against students with disabilities.

This law states that all students should have equal opportunity to participate in school sponsored activities, including field trips and after school events. It states that public schools should make reasonable accommodations for a student with diabetes. Accommodations are to be specified in the education plan and services may include:

- Assuring that there are staff members trained in checking blood glucose levels, recognizing and treating hypoglycemia and hyperglycemia, and administering insulin and/or glucagon
- Allowing students to monitor blood glucose levels and to treat hypoglycemia and hyperglycemia promptly

- Providing appropriate supervision to ensure student participation in sports, extra-curricular activities, and field trips
- Accessing restroom facilities and drinking water as needed

More information on the Americans with Disabilities Act may be accessed online at:
http://www.ada.gov/regs2010/titleII_2010/titleII_2010_regulations.htm

4. Occupational Safety and Health Administration (OSHA)

The OSHA Bloodborne Pathogens Standard final rule was issued in December 1991 to reduce the occupational transmission of infections caused by microorganisms sometimes found in human blood and certain other potentially infectious materials. Following OSHA requirements, an Exposure Plan provides specific guidance on the management of sharps and other items contaminated with blood and body fluids. Exposure Plans shall be reviewed and updated at least annually and whenever necessary (U. S. Department of Labor, 2008). Some additional OSHA requirements include:

Sharps

- Contaminated needles and other contaminated sharps shall not be bent, recapped, or removed.
- Shearing or breaking of contaminated needles is prohibited.
- Sharps containers must be closable, puncture resistant, labeled, or colored-coded, leak proof on sides and bottom, and remain upright throughout use.

Sharps containers

- Sharps containers must be easily accessible to personnel and located as close as possible to the immediate area where sharps are used.

Personal protective equipment

- Disposable gloves (vinyl preferably) shall be worn when performing a procedure where there is a reasonable expectation that the employee may have contact with blood or other potentially infectious material. Single use gloves are replaced as soon as practical after coming in contact with blood or infectious material or, as soon as possible, if torn or the ability to act as a barrier is compromised.

Additional information OSHA standards for bloodborne pathogens may be found at:

Occupational Safety and Health Administration: Part Number 1910: Occupational Safety and Health Standards: bloodborne pathogens:
http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10051

5. Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99)

Federal legislation protects the privacy of student educational records with legislation commonly referred to as FERPA (U. S. Department of Education, 2011). The law applies to all schools which receive funds under an applicable program of the U.S. Department of Education.

FERPA gives parents, and eligible students (those 18 years of age), certain rights with respect to their children's education records.

Parents or eligible students have the right to inspect and review the student's education records maintained by the school. They have the right to request that a school correct records which they believe to be inaccurate or misleading.

Generally, schools must have written permission from a parent/guardian or eligible student in order to release any information from a student's education record. However, FERPA allows schools to disclose those records, without consent, to the following parties or under the following conditions (U. S. Department of Education, 2011):

- school officials with legitimate educational interest;
- other schools to which a student is transferring;
- specified officials for audit or evaluation purposes;
- appropriate parties in connection with financial aid to a student;
- organizations conducting certain studies for or on behalf of the school;
- accrediting organizations;
- to comply with a judicial order or lawfully issued subpoena;
- appropriate officials in cases of imminent health and safety emergencies; and
- state and local authorities, within a juvenile justice system, pursuant to specific state law.

Additional information on FERPA may be accessed online at:

<http://www.ed.gov/policy/gen/guid/fpco/ferpa/index.html>

6. Limitation on liability for school employees

KRS 156.502 provides for liability: A school employee who has been properly delegated responsibility for performing a medical procedure under this section shall act as an agent of the school and be granted liability protection under the Federal Paul P. Coverdell Teacher Liability Protection Act of 2001, Pub. L. No. 107-110, unless the claimant establishes by clear and convincing evidence that harm was proximately caused by an act or omission of the school employee that constitutes negligence, willful or criminal misconduct, or a conscious, flagrant indifference to the rights and safety of the individual harmed.

7. The Kentucky Revised Statutes Pertaining to Nursing

Kentucky Revised Statutes (KRS) Chapter 314 regulates the practice of nursing in the Commonwealth and defines “registered nursing practice” as:

...The performance of acts requiring substantial specialized knowledge, judgment, and nursing skill based upon the principles of psychological, biological, physical, and social sciences in the application of the nursing process in:

- a) The care, counsel, and health teaching of the ill, injured or infirm;
- b) The maintenance of health or prevention of illness of others;
- c) The administration of medication and treatment as prescribed by a physician, physician assistant, dentist, or advanced registered nurse practitioner and as further authorized or limited by the board, and which are consistent either with American Nurses' Association Standards of Practice or with Standards of Practice established by nationally accepted organizations of registered nurses. Components of medication administration include, but are not limited to:
 1. Preparing and giving medications in the prescribed dosage, route, and frequency, including dispensing medications only as defined in subsection (17)(b) of this section;
 2. Observing, recording, and reporting desired effects, untoward reactions, and side effects of drug therapy;
 3. Intervening when emergency care is required as a result of drug therapy;
 4. Recognizing accepted prescribing limits and reporting deviations to the prescribing individual;
 5. Recognizing drug incompatibilities and reporting interactions or potential interactions to the prescribing individual; and
 6. Instructing an individual regarding medications;
- d) The supervision, teaching of, and delegation to other personnel in the performance of activities relating to nursing care; and
- e) The performance of other nursing acts which are authorized or limited by the board, and which are consistent either with American Nurses' Association Standards of Practice or with Standards of Practice established by nationally accepted organizations of registered nurses.

8. Kentucky Revised Statutes 158.838 Emergency administration of diabetes and seizure disorder medications -- Required written statements -- Limitation on liability ---Renewal of permission -- Expiration dates of medication—Self-performance of diabetes care tasks—Diabetes or seizure disorder not to prevent attendance at school the student would ordinarily attend.

(1) (a) Beginning July 15, 2014, the board of each local public school district and the governing body of each private and parochial school or school district shall have at least one (1) school employee at each school who has met the requirements of KRS 156.502 on duty during the entire school day to administer or assist with the self-administration of the following medication:

1. Glucagon subcutaneously to students with diabetes who are experiencing hypoglycemia or other conditions noted in the health care practitioner's written statement under subsection (2)(b) of this section;

2. Insulin subcutaneously, through the insulin delivery method used by the student and at the times and under the conditions noted in the health care practitioner's written statement under subsection (2)(b) of this section; and

3. A seizure rescue medication approved by the United States Food and Drug Administration and any successor agency.

(b) For those assigned the duties under paragraph (a) of this subsection, the training provided under KRS 156.502 shall include instruction in administering insulin and glucagon, as well as recognition of the signs and symptoms of hypoglycemia and hyperglycemia and the appropriate steps to be taken to respond to these symptoms.

(c) Any training program or guidelines adopted by any state agency for training of school personnel in the diabetes care tasks covered by this section shall be fully consistent with training programs and guidelines developed by the American Diabetes Association. Notwithstanding any state agency requirement or other law to the contrary, for purposes of this training a local school district shall be permitted to use any adequate and appropriate training program or guidelines for training of school personnel in the diabetes care tasks covered under this section.

(2) Prior to administering any of the medications listed under subsection (1)(a) of this section to a student, the student's parent or guardian shall:

(a) Provide the school with a written authorization to administer the medication at school;

(b) Provide a written statement from the student's health care practitioner, which shall contain the following information:

1. Student's name;

2. The name and purpose of the medication;

3. The prescribed dosage;

4. The route of administration;

5. The frequency that the medication may be administered; and

6. The circumstances under which the medication may be administered; and

(c) Provide the prescribed medication to the school in its unopened, sealed package with the label affixed by the dispensing pharmacy intact.

(3) The statements required in subsection (2) of this section shall be kept on file in the office of the school nurse or school administrator.

(4) The school district or the governing body of each private and parochial school or school district shall inform the parent or guardian of the student that the school and its employees and

agents shall not incur any liability as a result of any injury sustained by the student from any reaction to any medication listed under subsection (1)(a) of this section that a parent or guardian has authorized the school district to administer to a student to treat a hypoglycemic or hyperglycemic episode or a seizure or its administration, unless the injury is the result of negligence or misconduct on behalf of the school or its employees. The parent or guardian of the student shall sign a written statement acknowledging that the school shall incur no liability except as provided in this subsection, and the parent or guardian shall hold harmless the school and its employees against any claims made for any reaction to any medication listed under subsection (1)(a) of this section that a parent or guardian has authorized the school district to administer to a student to treat a hypoglycemic or hyperglycemic episode or a seizure or its administration if the reaction is not due to negligence or misconduct on behalf of the school or its employees.

(5) The permission for the administration of any of the medications listed under subsection (1)(a) of this section shall be effective for the school year in which it is granted and shall be renewed each following school year upon fulfilling the requirements of subsections (2) to (4) of this section.

(6) The school nurse or school administrator shall check the expiration date monthly for each medication listed under subsection (1)(a) of this section that is in the possession of the school. At least one (1) month prior to the expiration date of each medication, the school nurse or school administrator shall inform the parent or guardian of the expiration date.

(7) Upon the written request of the parent or guardian of the student and written authorization by the student's health care practitioner, a student with diabetes shall be permitted to perform blood glucose checks, administer insulin through the insulin delivery system the student uses, treat hypoglycemia and hyperglycemia, and otherwise attend to the care and management of his or her diabetes in the school setting and at school-related activities. A student shall be permitted to possess on his or her person at all times necessary supplies and equipment to perform these monitoring and treatment functions. Upon request by the parent or student, the student shall have access to a private area for performing diabetes care tasks.

(8) (a) Beginning July 15, 2014, a school district shall permit a student who has diabetes or a seizure disorder to attend the same school the student would attend if the student did not have diabetes or a seizure disorder. Such a student may only be transferred to a different school based on health care needs if the individualized education program team, the Section 504 team, or, if appropriate, the student's health services team, makes the determination that the student's health condition requires that the student's care be provided by a licensed health care professional at a different school. For the purpose of this determination, the teams shall include the parent or guardian. The parent or guardian may invite the student's treating physician to the team meeting and the team shall consider the physician's input, whether in person or in written form, when making this determination. This determination shall be based on individualized factors related to the student's health conditions. A school district shall not prohibit a student who has diabetes or a seizure disorder from attending any school on the sole basis that:

1. The student has diabetes or a seizure disorder;
2. The school does not have a full-time school nurse; or
3. The school does not have school employees who are trained in accordance with KRS

156.502 and assigned to provide care under this section.

(b) Parents or guardians of students who have diabetes or a seizure disorder shall not be required or pressured by school personnel to provide care for a student with diabetes or a seizure disorder

during regular school hours or during school-related activities in which the student is a participant. For the purposes of this paragraph, a participant is not a student who merely observes the activity.

(9) The requirements of subsections (1) to (8) of this section shall apply only to schools that have a student enrolled who:

(a) Has a seizure disorder and has a seizure rescue medication approved by the United States Food and Drug Administration and any successor agency prescribed by the student's health care provider; or

(b) Has diabetes mellitus and has any of the medications listed under subsection (1)(a) of this section prescribed by the student's health care provider.

(10) Nothing in this section shall be construed to require a school employee to consent to administer medications listed under subsection (1)(a) of this section to a student if the employee does not otherwise consent to provide the health service under KRS 156.502.

(11) Notwithstanding any other provision of the law to the contrary:

(a) The administration of the medications listed under subsection (1)(a) of this section by school employees shall not constitute the practice of nursing and shall be exempt from all applicable statutory and regulatory provisions that restrict the activities that may be delegated to or performed by a person who is not a licensed health care professional; and

(b) A licensed health care professional may provide training to or supervise school employees in the administration of the medications listed under subsection (1)(a) of this section.

Effective: March 5, 2014

History: Amended 2014 Ky. Acts ch. 3, sec. 2, effective March 5, 2014. -- Created 2005 Ky. Acts ch. 177, sec. 2, effective June 20, 2005.

9. Levels of Training

The following information is provided to assist school administrators in planning for the training of identified school personnel to whom administration of insulin can be delegated by the school nurse. It will be helpful for the school personnel who will be included in the child's care and receive training to collaborate with the parent/guardian as much as possible. The National Diabetes Education Program (NDEP) (2010, p. 3) makes the following training recommendations to ensure effective diabetes management in the school setting:

Level 1. All school personnel should receive training that provides a basic understanding of diabetes, how to recognize and respond to the signs and symptoms of low blood glucose (hypoglycemia) and high blood glucose (hyperglycemia), and who to contact immediately in case of emergency.

Level 2. Classroom teachers and all school personnel who have responsibility for students with diabetes throughout the school day should receive Level 1 training plus additional training to carry out their individual roles and responsibilities and to know what to do in case of a diabetic emergency.

Level 3. One or more school staff members should receive in-depth training about diabetes and routine and emergency care for each student with diabetes from a diabetes-trained health care professional such as the school nurse or a certified diabetes educator. This training will help ensure that a school staff member is always available to help younger or less-experienced students or those with additional physical or mental impairments perform diabetes care tasks (e.g., administering insulin or checking their blood glucose). (NOTE: KRS 156.502 allows only a physician, advanced practice registered nurse or a registered nurse to delegate a specific health service to a school employee (unlicensed personnel) and shall be trained by either a physician or a registered nurse/advanced practice registered nurse.

10. Responsibilities for Collaboration

In order to feel safe, maintain wellness, and progress educationally, students with diabetes depend upon the collaboration of their family, their health care team, and their school health team. The NDEP (2010, pp. 65-96) has developed a set of suggested “Actions” sheets that outline the responsibilities and roles that the student, parents, and school staff play in carrying out a student’s diabetes medical management plan (DMMP). Everyone has a part to play in helping the student reach his or her potential and access the educational environment. No role is insignificant.

MODULE B

Incidence of Diabetes in Kentucky School Children

Incidence of Diabetes

One of the most common chronic diseases of childhood is diabetes. According to 2010 statistics from the National Institutes of Health (NIH) (2011), “about 215,000 people younger than 20 years had diabetes – Type 1 or Type 2 – in the United States.” During the years 2002-2005, the NIH noted that “15,600 youth were newly diagnosed with Type 1 diabetes annually, and 3,600 youth were newly diagnosed with Type 2 diabetes annually.” In Kentucky, diabetes is becoming more prevalent among younger adults. (KY Dept. of Health, 2011) The American Diabetes Association (ADA) stated in their position statement, Diabetes Care in the School and Day Care Setting, “The majority of these young people attend school and/or some type of day care and need knowledgeable staff to provide a safe school environment” (2011a). The ADA advocates for parents and the health care team to collaborate with school personnel to allow children with diabetes to participate fully and safely in the school experience.

Statistics on Kentucky Public School Districts, Schools and Students with Diabetes

2011-2012 School Year

Number of students enrolled in KY Public schools: 699,939

Number of school districts in KY: 174

Number of school districts with students with diabetes: 114

Number of school districts without students who have diabetes: 60

Total number of students enrolled in the KY 174 school districts’ public schools with diabetes, (all grades): 2,113

MODULE C OVERVIEW OF DIABETES

The National Institutes of Health’s National Diabetes Information Clearinghouse (2008) defines diabetes as a “disorder of metabolism.” When people eat, much of the food is broken down into glucose, the form of sugar in the blood. Glucose is the main source of energy for the body. As digestion occurs, the glucose moves into the blood, which transports it to the cells of the body where it is used for energy.

In order for glucose to move from the blood into the cells, there must be insulin present. Insulin is a hormone made by the pancreas. In people who have diabetes, the body makes little or no insulin or the body does not use the insulin it has properly. This causes glucose to build up in the blood. Even though the body has high levels of glucose in the blood, the body is unable to utilize it effectively.

If the body no longer makes insulin, an alternate source of insulin must be provided by either injections or from an insulin pump. If the body does not use insulin properly, individuals may take insulin and/or other glucose lowering medications. Insulin and other diabetes medications, like those used in the treatment of Type 2 diabetes, are used to manage blood glucose levels; these medications do not provide a cure for the disease.

“Diabetes must be managed 24 hours a day, 7 days a week,” (The National Diabetes Education Program, 2010, p. 1). Managing diabetes is a constant quest to achieve the right balance between food intake, physical activity, and insulin amounts in order to keep blood sugar levels in the target range. Factors such as exercise, illness, and stress, make it difficult to always maintain that perfect balance. When the balance is tipped, the student experiences symptoms of blood sugars that are too high or too low. Blood sugars that are too high or too low are serious and require proper recognition and action by trained adults to help keep students healthy.

The American Diabetes Association’s (ADA) *Position Statement: Standards of Medical Care* (2011b) provides a summary of diabetes management tools and goals, including blood glucose levels, suitable for use by most individuals. However, it is important to remember that the medical management of diabetes will be individualized to the needs of the person. Healthcare providers may vary target ranges for blood sugars taking into account the benefits and the risks, the frequency of low blood sugars, and the individual’s ability to recognize a low (p. 38). The ADA recommends the following target blood glucose ranges before meals:

<u>Values by age</u>	<u>Blood Glucose (mg/dL)</u>
Toddlers and preschoolers (0-6 years)	100 - 180
School age (6-12 years)	90 - 180
Adolescents and young adults (13-19 years)	90 - 130

Taking care of diabetes is important. If not treated, diabetes can lead to serious health problems. The disease can affect the blood vessels, eyes, kidneys, nerves, gums, and teeth, and it is the leading cause of adult blindness, lower limb amputations, and kidney failure. People with

diabetes also have a higher risk of heart disease and stroke. Research shows that these problems can be greatly reduced or delayed by keeping blood glucose levels near normal.

The management of diabetes is rapidly changing. Technological advances provide more options for individualized care. Diabetes management requires an individual approach; it requires a careful balance of a variety of factors including the student's age and developmental level. Additional factors include exercise and sports, diet, medication management, and blood glucose monitoring. It is necessary to consider all these factors when preparing the student's individualized health care plan and in planning for the least restrictive educational environment.

Types of Diabetes

A. Type 1

Type 1 diabetes mellitus (T1DM) is a complex metabolic disease. In people with T1DM, the immune system attacks the beta cells (the insulin-producing cells of the pancreas) and destroys them. Because the pancreas can no longer produce insulin, people with T1DM need to take insulin. T1DM can occur at any age, but it begins most often in children and young adults. Currently, there is no cure for T1DM, but research into prevention and treatment is ongoing.

Symptoms

- increased thirst
- increased urination
- constant hunger
- weight loss
- blurred vision
- fatigue

Risk Factors

- genetics
- environment

B. Type 2

The first step in the development of type 2 diabetes mellitus (T2DM) is often a problem with the body's response to insulin, or insulin resistance. For reasons scientists do not completely understand, the body cannot use its insulin very well. This means that the body needs increasing amounts of insulin to control blood glucose. The pancreas tries to make more insulin, but after several years, insulin production may drop off. Some people with T2DM may need to take oral medication, insulin, or both.

T2DM is a disease found mainly in overweight adults ages 40 or older. With the epidemic of childhood obesity and low levels of physical activity in today's youth, more children and adolescents are being diagnosed with T2DM (Centers for Disease Control, 2010). A healthy diet, adequate exercise, and weight management may decrease the risk of getting T2DM.

Symptoms

- fatigue
- increased thirst
- increased urination
- nausea
- rapid weight loss
- blurred vision
- frequent infections
- slow healing of wounds or sores

Risk Factors

- being overweight (greater than 85th percentile for height/weight)
- having a family member who has type 2 diabetes or a mother who had gestational diabetes
- having diabetes during pregnancy or having a baby weighing more than 9 pounds
- African American, Hispanic/Latino, Native American, Asian, or Pacific Islander Ethnicity (Specialized Health Care Procedures 2004, pp. 19-20)

MODULE D

AUTHORIZATION FOR TREATMENT

Authorization for treatment at school must be received prior to care being provided. The Diabetes Medical Management Plan (DMMP) and Medication Permission forms are available at the student's school. Forms may vary by school district.

Authorization must be updated each school year by the following:

1. The student's parent or guardian is required to give permission by signing the school district authorization for health services form for the student to be treated at school
2. The treating health care provider must provide written authorization for insulin and glucagon to be given at school and the procedures for treating diabetes. The most current written orders or prescription that has been provided to the school shall be maintained with or incorporated into the DMMP.
3. Local school board policy may require additional forms for treating students with chronic health conditions.
4. RNs and LPNs may only administer medications and treatments prescribed by persons authorized by law to prescribe such medications and treatments according to KRS 314.011. If there is any question or clarification needed on a medication order, the nurse shall consult the prescribing health care provider for a specific written medication dose. The nurse may request a standing order or protocol for a particular student from the prescribing health care provider.

MODULE E

PRINCIPLES OF MEDICATION ADMINISTRATION

Each local school district should have its own school board policy for the administration of medication in school.

The state laws and regulations that govern the legal practice of nursing in Kentucky are commonly known as the Kentucky Nurse Practice Act or the Kentucky Nursing Laws. These laws must be followed when developing local school board policy for the administration of medication at school by a RN or licensed practical nurse (LPN). The Kentucky Nurse Practice Act provides for delegation. The Kentucky Administrative Regulations and KBN Advisory Opinion Statements permit RNs to delegate the administration of medication in limited exceptions that have been defined in the advisory opinions. Therefore, if medication administration is to be performed by personnel who do not hold appropriate health care licensure, it must be under the delegation of a registered nurse who has made the determination that the designated school personnel is educationally prepared and has been validated to be competent in performing the nursing task in the absence of the nurse.

1. Medication authorization

Authorization for medication administration should follow school district policy. The written authorization should include the following information:

- student's name
- licensed prescriber's name, telephone number, and signature
- date prescription written
- name of the medication
- dosage to be administered
- route of administration
- time of day to be given
- frequency of administration and whether it can be repeated
- anticipated length of treatment
- diagnosis or reason the medication is needed (unless reason should remain confidential)
- serious reactions that may occur if the medication is not administered
- special handling instructions

Any change in the original medication authorization requires a new written authorization and a corresponding change in the prescription label. Medication orders or changes in medication orders should never be accepted from parents or others who are not licensed to prescribe in Kentucky.

In an emergency or under urgent circumstances, medication orders from a licensed provider may be taken over the phone by the school nurse. Telephone changes should be taken directly from the licensed prescriber by a licensed nurse only. The telephone authorization for changes in medications should be recorded on the student's record and be a one-time-order only. A

telephone authorization should be followed by a written order from the licensed prescriber within 24 hours. If orders are received due to a health care emergency, a parent or guardian should be notified as soon as possible by the registered nurse, advanced practice registered nurse, physician or school principal.

Medication authorization should be received on a standardized medication administration form. School districts may have their own form for this purpose, available at the school and on the district's website.

2. Medication administration

Since most children spend the majority of their waking hours in school, it is important that designated school personnel receive training to perform selected health care tasks that the children cannot do for themselves. One of these tasks is the administration of medication. Designated non-licensed personnel delegated to administer insulin and glucagon are to receive training in the basic principles of medication administration as well as in the administration of medications related to diabetes care.

The Kentucky Department of Education developed a manual in 2010 to assist school districts in providing medication administration training to designated school personnel. Updated in 2013, it is entitled *Medication Administration Training Manual for Non-Licensed School Personnel (Kentucky 2013)*. The manual was developed collaboratively by the Kentucky Department of Education and the Kentucky Department for Public Health in consultation with the Kentucky Board of Nursing. For school staff to receive training in the administration of insulin and glucagon the basic principles of medication administration is identified as one of the required training components. The "six rights of administering medication" are listed as an important safety precaution when administering medications. The "six rights" of giving medication are:

- Right student
 - Right medication
 - Right dose
 - Right time
 - Right route (by mouth, injection, etc.)
 - Right documentation
-
- The registered nurse should provide ongoing training and feedback to the unlicensed school personnel administering medications in his or her absence. (KRS 156.502)
 - The medication label should be reviewed by the school nurse, prior to utilizing the medication for a child and by the non-licensed school personnel at each administration of the insulin either by injection or via the insulin pump.

The *Medication Administration Training Manual for Non-Licensed School Personnel* (2013) further recommends the principal or school nurse should ensure that:

- medications are administered by trained school personnel
- parents provide the school with the medication in a correctly labeled pharmacy container. (The exception to reviewing the medication label would be for students receiving insulin per insulin pump)
- medication is given correctly and documented appropriately
- appropriate forms are completed prior to giving a medication, including prescriber authorization and parental consent
- medication is properly labeled and stored in a secure, safe place

3. Documentation of medication administration

Documentation of medication administration is often referred to as the “sixth right” of medication administration. The *Medication Administration Training Manual of Non-Licensed School Personnel* (2013) outlines the record keeping associated with medication administration to students. Each time a medication is administered to a student, a record should be kept of:

- the name of person administering the medication
- the name of student receiving the medication
- the name of the medication
- the time it was given
- the dose given
- the route or manner in which it was delivered (e.g., oral, subcutaneous, intramuscular)
- any unusual observations or circumstances

The documentation of medication administration must occur immediately after medication is given, so that documentation content is not forgotten. Failure to document that a task has been completed could lead other staff to think a medication has not been given and result in the student receiving extra doses of medication. Documenting before a task is completed could lead other staff to think medication has been given and result in the student missing a dose of medication.

With the exception of the insulin pump reservoir, when medication is brought to school, the amount of the medication in the container should be documented. When the medication is insulin or glucagon, the vial should be unopened and within the expiration date. When a vial of insulin is opened, the individual opening the bottle should label the bottle with the date it was opened and initials of the person who opened the bottle. Open bottles of insulin should not be accepted.

4. Storage and disposal of medical supplies

Storage

Each local school district should have policies regarding storage of medications and related supplies. Parents are responsible for providing medications, supplies, and equipment as called for in the DMMP. It is recommended by the *Medication Administration Training Manual for Unlicensed School Personnel* (Kentucky Department of Education 2013) that medications and syringes be stored in a clean locked cabinet with the keys being easily accessed in an emergency. A sample list of diabetes care supplies can be found in Appendix E.

There may be circumstances where the student has permission to carry medications and/or supplies for self-care (example: blood glucose testing). Where this is permitted, the following documentation is required:

- authorization from the health care provider for the student to self-manage diabetes care,
- permission from a parent/guardian of a minor student, or from the legal guardian of an adult student
- assessment by the nurse as to the student's ability to perform the task(s) responsibly.

It should be noted that if a student is permitted to carry and self-administer medications or perform self-care tasks independently, there is an implied expectation that he or she will carry out self-care in a responsible manner. If the student does not follow the guidelines, permission to self-manage diabetes care may be restricted or revoked. For students who carry and self-manage their diabetes medication(s), consideration should be given to housing extra supplies for them in the health office.

Disposal

School districts should have a protocol for notifying parents about the need to pick up unused medication(s) and/or supplies. Parents should also be advised of the district's protocol for destroying unclaimed medication(s)/supplies. The *Medication Administration Training Manual for Unlicensed School Personnel* (Kentucky Department of Education, 2013) advises that:

- a parent/guardian should pick up unused medication or when it is no longer needed at school.
- in the case of medications used by the student daily/routinely, parent/guardian should be notified that they need to pick up the medication/supplies and given sufficient time to do so.
- medications that are not picked up should be destroyed on the last student day. Destruction should be in accordance with current health care standards and district protocols with appropriate documentation.

5. Parent/guardian responsibilities

According to the *Medication Training Manual for Unlicensed School Personnel* (Kentucky Department of Education, 2013), prior to administering a medication (insulin or glucagon) at school, a parent/guardian shall:

- provide the school with a written authorization form from a licensed prescriber which includes: the student's name, name of the medication, dosage, time to be given, method by which it is to be given, name of the licensed prescriber, date of the prescription, expected duration of administration of the medication, and most importantly, possible toxic effects and side effects.
- provide a new written authorization form, signed by the licensed prescriber and a parent/guardian, for any changes in medication, dosage, or the manner in which it is administered.
- provide the medication in a container labeled as required by school policy.
- administer the first dose of any new medication at home.
- transport medication to and from school per school district policy.

In addition to supplying the medication(s) their child needs, parents/guardians are responsible for providing the related supplies and equipment. A sample list of diabetes care supplies for school is found in Appendix E. Additional guidance related to medication administration may be found in the *Medication Training Manual for Unlicensed School Personnel* (Kentucky Department of Education, 2013).

MODULE F

Individualized Health Care Plan, Emergency Care Plan, Diabetes Medical Management Plan

Individualized Health Care Plan (IHP)

An IHP is required for each student diagnosed with diabetes. An RN must prepare the plan. The IHP is the result of the nurse's assessment of the student's needs and prescriber's orders and how best to meet them within the school environment. The IHP should be updated at least annually and as the student's health care status or needs change. A list of names of unlicensed school personnel who have successfully completed the training for insulin and/or glucagon should be kept in the office of the school nurse or school administrator.

Emergency Care Plan (ECP)

Some chronic conditions have the potential to develop into a medical crisis and require an Emergency Care Plan. The ECP is derived from the IHP and provides staff with appropriate action steps in time of crisis.

Components of an ECP include:

- emergency contact information
- signs/symptoms that identify the situation as a health crisis
- step-by-step actions to be taken in the event of a health crisis
- basic information on the underlying health condition may or may not be included

School personnel responsible for the student, such as, classroom teachers, resource teachers, bus drivers, and cafeteria staff should be identified as trained personnel and should receive a copy of the plan.

Diabetes Medical Management Plan (DMMP)

The DMMP is a plan that describes the diabetes care regimen and identifies the health care needs of a student with diabetes. The health care provider and ideally a parent/guardian should complete this form. It is the basis for the IHP and it provides the school personnel information that is necessary to safely care for the student during the school day, on field trips, and when participating in school sponsored extracurricular activities. A new DMMP should be completed each school year and it should be in place before the first day of school. If the health care provider makes changes to a student's plan of care during the school year, the school will need a new or updated DMMP form in order to implement the changes.

Samples of Forms

Forms used by school districts may vary, but the information needed to safely care for students with appropriate parent and provider approval should be consistent with the recommendations.

The NDEP has a sample DMMP in their publication, *Helping the Student with Diabetes Succeed: A Guide for School Personnel* (2010, pp. 99-106). It is available online at: <http://ndep.nih.gov/publications/PublicationDetail.aspx?PubId=97&redirect=true#main>

The National Association of School Nurses (NASN) has published a comprehensive tool kit, *Managing Diabetes at School: Tools for the School Nurse* (2011) with forms and resources. It is available to order from the online NASN Bookstore at <http://www.nasn.org>

Forms to document the training of staff in diabetes care skills are also available in Appendix D. Sample algorithms for blood glucose monitoring/care are included in Appendix F.

MODULE G

THERAPEUTIC MANAGEMENT OF DIABETES

Medication

Students with type 1 diabetes mellitus (T1DM) require the administration of insulin to cover both carbohydrates eaten and blood glucose (BG) levels that are out of the child's target BG goal range. Most children on multiple daily injection (MDI) therapy (3 or more injections a day), or insulin pump therapy, otherwise known as continuous subcutaneous insulin infusion (CSII), will require insulin delivery at school. In addition, some children with T1DM may also require oral medications as part of their DMMP.

In order for unlicensed school personnel to administer, or assist in the administration of insulin, BG levels must be monitored and carbohydrates that are eaten are counted prior to giving the insulin dose. Some Diabetes Medical Management Plans indicate that the insulin dosage should be calculated based on the food to be eaten and administered prior to the meal. The Diabetes Medical Management Plan will state when the student will receive their insulin dose and how the dose calculation is to be determined (as this may vary among health care providers.) Parents of students with T1DM will need to provide the school with all the necessary medication, equipment, and/or supplies required to handle the child's medical needs. These include, but are not limited to:

- insulin
- syringes and/or 1-2 pump change set-ups
- lancing device and lancets
- BG monitor, extra batteries, and strips
- ketone sticks
- alcohol swabs
- hypoglycemia treatment supplies (e.g., glucose tabs, small juice boxes, crackers)
- glucagon emergency kit

For type 2 diabetes mellitus (T2DM,) the first recommended treatment is usually a change in lifestyle. Increased physical activity and following a specified meal plan may help to control BG levels and contribute to weight loss. Sometimes these measures are not enough to bring BG levels into the target range and medications may be added to the DMMP (American Diabetes Association, 2011b). The DMMP will specify what medications the student needs. T2DM is often managed with oral medication, but insulin may also be used to achieve glycemic control. Parents are responsible for providing medications and supplies necessary to meet their child's needs.

Nutrition

Students with diabetes have the same nutritional needs as other students. All children need to eat a healthy, well-balanced diet to promote optimal growth and development. According to the NDEP (2010, p. 50), the significant difference in meal planning for the student with diabetes is

that the timing, amount, and content of the food eaten are carefully matched to the action of the insulin. The nutritional component of diabetes management should be in the DMMP.

Because carbohydrates (carbs) affect blood glucose levels more than any other nutrient, they are the major focus of most meal planning approaches. It is important to count the total amount of carbs in a meal or snack. Carbs are found in dairy products, starchy vegetables, grains, fruits, juices, and sweets. Be sure to check for “hidden” carbs in foods such as condiments, sauces, and dressings. There are no “forbidden foods.” The NDEP does recommend that students avoid “liquid carbs” such as fruit juice and soft drinks with sugar to the treatment of hypoglycemia as these carb containing foods raise blood glucose levels quickly (2010, p. 50).

Students with diabetes usually have an individualized meal plan based upon carb counting or an exchange system. When the health care provider develops the meal plan portion of the DMMP, he/she takes into account the other components of the DMMP, factors such as medication and activity level. The goal is to balance these components of diabetes management to help the student achieve optimal glycemic control. Designated school personnel must be knowledgeable of the student’s meal plan requirements.

A “carb choice” or serving is the amount of food that contains 15 grams of carbohydrate. For most starches and fruits this is a ½ cup serving. It is important to read the labels on foods to determine the number of servings in a container and the grams of carbs per serving. Be sure to check the labels on sugar-free products such as cookies, candies, and ice cream. They often contain carb amounts similar to their non-sugar-free counterparts. It is preferable to use regular products in appropriate portions.

Families of students with diabetes may review school lunch menus to determine the carbohydrate content of the meals available. The food service manager should have access to the nutritional content of the food available in the cafeteria. If a food vendor for an item changes or the vendor updates their food label, be sure to check to see if there are differences in the nutritional content of the food item(s). Books such as *The Calorie King Calorie, Fat, & Carbohydrate Counter* (Borushek, 2011) and other resources are available to help with carb counting. If the parent provides food from home, the parent should provide the school with the carb count for the food item or meal (Bulter, 2011). A certified diabetes educator can also help locate resources for nutritional needs.

Carb counting is most often done in one of two ways: Consistent Carb Intake or Insulin-to-Carb Ratio (NDEP, 2010, pp. 51-52). The DMMP will specify which type of meal plan the student should follow.

- Consistent Carb Intake Meal Plan
 - Students who follow this plan are provided a set amount of carbs or carb servings to eat for meals and snacks. Students who take an intermediate-acting insulin in the morning or a predetermined amount at lunch are most likely to use this plan (NDEP, 2010, pp. 52-53). Meal and snack times should remain constant. Insulin doses usually remain consistent as well. This plan is usually easy to follow, but does not readily allow for flexibility when the unexpected happens or a schedule is not routine.

- Insulin-to-Carb Ratio Plan

- Insulin dosage is based on two calculations: a ratio of insulin-to-carbs eaten and a correction factor. These ratios are specified in the DMMP by the prescribing health care provider.
- The insulin-to-carb ratio is the amount of insulin given to cover for a stated amount of carbs that are eaten or are to be eaten. The prescriber will commonly express it as a ratio, for example 1:15. The amount is individualized for each person in his/her DMMP and the ratio may even vary by meal.

Sample calculation of an insulin-to-carb ratio:

The student's lunchtime insulin-to-carb ratio is 1:15.
The child ate 60 grams of carbs. The formula is:
 $60 \div 15 = 4$ units of insulin

- The correction factor is the amount of insulin the student needs to lower the BG into target range. The target BG is subtracted from the actual pre-meal BG. The prescriber will specify how much insulin is required for results that are over the target BG. This calculation is student-specific and may vary.
 - It is important to note that a correction dose should not be given within the 2 hours after: eating carbs, a previous correction dose, or treatment for a low BG unless there is a specific order from the health care prescriber.

Sample calculation of a correction dose:

The student's pre-meal BG is 300. The student's target BG is 150. The correction dose is 1 unit of insulin for every 50 mg/dL over 150. The formula is:
 $300 - 150 = 150 \div 50 = 3$ units of insulin

- The two calculations are then added together to obtain the insulin dosage for the child.

Sample calculation of total insulin dose

Insulin-to-carb dose plus correction dose = total units
The formula is:
 $4 + 3 = 7$ units of rapid-acting insulin

The insulin-to-carb ratio method gives more flexibility to the student, but it may also take more time and attention to track the carbs throughout the day. For younger students, the school nurse and the school food service manager should know the child's meal plan and work with a parent or guardian to coordinate it with the school's scheduled snack and meal times when possible.

A parent or guardian should be notified in advance by the school nurse or the principal whenever special events are scheduled that might affect the meal plan. This includes after school activities and field trips. School days when there is an increased amount of physical activity may necessitate the child having extra snacks. Examples are the days when there is physical education class or a "Field Day." The parent or guardian is expected to provide additional food/snacks for such events.

Physical Activity

Everyone can benefit from regular exercise. Exercise and physical activity are critical parts of diabetes management. In addition to maintaining cardiovascular fitness and controlling weight, physical activity can help to lower BG levels. Students with diabetes should participate fully in physical education classes and team sports.

To maintain BG levels within the target range during extra physical activity, students may need to make adjustments in their insulin and food intake. To prevent hypoglycemia, they also may need to check their blood glucose levels more frequently while engaging in physical activity. Generally, BG levels before exercise should be over 100 and under 250. The DMMP should direct what BG levels are acceptable for exercise. If BG levels are high, ketone testing may be ordered as well as appropriate follow up if ketones are present.

The student with diabetes should eat prior to exercising if it has been more than two hours since the student has eaten. It is best to exercise or take physical education classes 30-60 minutes after a meal to allow time for food to be absorbed. A person with diabetes always needs to have a fast-acting sugar and a complex carbohydrate readily available for treatment of low blood sugar, along with plenty of water. Physical education instructors and sports coaches should be able to recognize and assist with the treatment of hypoglycemia. They should have a copy of the student's Emergency Action Plan.

Exercise increases the flow of blood in general, but especially to the muscles that are being used the most. Insulin is absorbed faster when there is increased blood flow to the exercising muscles. For example, if the insulin is injected in the arm before a run or swim, it may be absorbed quickly and cause a low blood sugar. Muscles use stored energy while exercising and after exercise, the muscles need to replace this stored sugar. They do this by taking glucose out of the blood and this may continue for up to 12 hours after exercising.

Students using pumps may disconnect from the pump for sports activities. The IHP should address storage of the pump if it is removed for physical activity. It should be stored in a secure location. If a student keeps the pump on, he/she may set it at a temporary, reduced rate of insulin while he/she is at play. Instructions for temporary basal rates should be addressed in the DMMP. The student's DMMP and IHP should include specific instructions for physical activity. The registered nurse shall not delegate a pump disconnect or pump hook-up and programming to

unlicensed school personnel. Individualized teaching for unlicensed school personnel shall be required when it is identified there is a student who has a pump, in order to learn about the specific pump and any requirements for adjusting a dosage of insulin.

Support of Developmentally Appropriate Self- Management of Diabetes Care

The NDEP states that in addition to dealing with the usual developmental issues that are associated with growing up, children with diabetes must also learn to manage the complexities of this life-long chronic illness (2010, p. 58). Since diabetes impacts all aspects of someone's life, this can complicate how the child works through normal developmental challenges. Individuals will react differently to having diabetes and the associated emotions may run the gamut from accepting to resentful. Students may be open with others about their illness or try to hide it from others.

Children, in general, do not want to be different from their peers, but having diabetes and the associated self-care tasks can make them feel different. They may feel conflicting pressures to comply with their DMMP but also to fit in with their peers. It is important that the student feel supported and that staff be aware of emotional or behavioral issues that may need referral.

The child's ability and willingness to learn and assume responsibility for self-care tasks is individualized. The ADA's (2011a, p. S72) position on diabetes care in school is that:

Children and youth should be allowed to provide their own diabetes care at school to the extent that it is appropriate based on the student's development and his or her experience with diabetes. The extent of the student's ability to participate in diabetes care should be agreed upon by school personnel, the parent/guardian, and the health care team, as necessary. The ages at which children are able to perform self-care tasks are variable and depend on the individual, and a child's capabilities and willingness to provide self-care should be respected.

It is important that though the child is independent with certain tasks, "supervision by caregivers must continue" (Juvenile Diabetes Research Foundation, 2011). The DMMP and the plans of care will specify which tasks the provider considers the child to have mastered and the ones for which the student needs assistance. No matter the level of independence, a student experiencing symptoms of either a high or low BG may need someone to help.

The following list of ways to support the student's healthy response to diabetes is based upon "Tips for Teachers of Students with Diabetes," which the ADA adapted from a Loudoun County, Virginia document.

- Understand that all children with diabetes are different and react differently to symptoms of low BG.
- Try not to draw attention to the child's diabetes.
- Be inconspicuous in your reminders about snacks and self-care tasks.
- Do not label children with diabetes. Never refer to the child as the "diabetic kid."
- Do not sympathize, however, empathize and learn what you can do to support them.

- The student should always be prepared and have a snack available. Ensure the child has a snack whenever he/she leaves the classroom for a period of time. (The parent or guardian is responsible for providing snacks, not the school district.)
- Never leave the child with diabetes alone if they are experiencing symptoms of a low BG. If they need to go to the office or see the nurse, send a buddy with them.
- The child with diabetes needs monitored yet unrestricted access to the bathroom and to water.
- Be patient, especially if they have symptoms of a low BG. Variations in BG can interfere with the student's ability to organize things or to concentrate.
- Knowledge is power. Educate yourself about diabetes and keep the lines of communication open.

Barriers to Appropriate Diabetes Management

Lack of knowledge and or fear can be a barrier to appropriate diabetes care. Caring for someone with diabetes can be stressful for the individual and the family. Some people are embarrassed by or afraid of low BG symptoms. They may manage their diabetes by not taking all of their insulin or eating extra carbs. The normal difficulties encountered by parents and their children may be compounded by the stress of diabetes care. The parent or guardian needs to feel supported and may need help with educational resources.

As the child moves into the teenage years, children who were previously compliant may now rebel or not be totally honest about self-care tasks such as BG testing. In addition, the physiological changes of adolescence may make it more difficult to keep BG in the target range, despite compliance (Juvenile Diabetes Research Foundation, 2011). The ADA cited research that showed it was more difficult to achieve near normal BG levels in teens than in adults (2011b, p. S38). This can lead to the teen with diabetes feeling frustrated and contribute to the child becoming less engaged or compliant with the DMMP. Teens need support to move toward independence, but they also need supervision to make sure they are caring for themselves properly.

Age Appropriate Self-Care Guidelines

Each student is unique in his or her ability to perform self-care tasks. Various factors such as age of diagnosis, child's current developmental level, and the willingness on the part of the child and parent can influence the age at which the child assumes various self-care tasks. The following is a list of age-appropriate self-care tasks, based upon recommendations from the NDEP (2010, pp. 60-61) and the National Association of School Nursing's school nursing text (2006, pp. 775-776):

- Toddlers and preschool-aged children
 - are usually unable to perform diabetes care tasks independently.
 - need an adult to provide all or most aspects of care.
 - can usually determine which finger to prick, choose an injection site, and are generally cooperative.

- aged 4 to 5 can collect own urine for ketone check, turn on glucometer, pinch their own skin, help with recording results, and begin to identify symptoms of low BG.
- Elementary school-aged children
 - may be able to perform their own BG checks, but still need adult supervision.
 - begin to learn, with adult supervision, some self-care tasks such as insulin administration by syringe or pump, meal planning with recognition of foods that contain carbs, carb counting, ketone testing, and record keeping related to self-care tasks. It is not the role of the unlicensed school personnel to teach these self-care tasks.
 - begin to understand the impact of insulin, physical activity, and nutrition on BG levels.
 - unless they have an inability to recognize symptoms of low BG, should be able to recognize and tell an adult they feel symptomatic.
- Middle and high school-aged children
 - are usually able to provide self-care, depending on the length of diagnosis and the level of maturity.
 - should be encouraged and empowered to be independent with self-care.
 - will need help if experiencing a low BG.

MODULE H

MONITORING THE STUDENT WITH DIABETES

Monitoring Blood Glucose (BG)

Successful diabetes management depends largely on BG monitoring, which measures the effects of balancing food, exercise, and medication. Diabetes care centers around the BG level while taking into account development and other factors. BG levels are measured in milligrams per deciliter (mg/dL). The physician usually requests that a student check BG levels at various times during the school day such as:

- before eating snacks or lunch,
- before physical activity, and
- when the student has symptoms of either a high or low BG.

Frequent monitoring and recording of BG levels provides the most accurate picture of the student's diabetes control. The BG check provides the information necessary to make appropriate choices about food and activities. The primary health care provider or diabetes educator will provide guidance on how frequently the student's blood glucose should be checked during the day in the DMMP. There is no specific number of BG checks which should be done per day as different people require different treatment options. The student's doctor, school nurse or other diabetes professional can work with the parent or guardian and student to determine the best plan for treatment. Though it can vary, students taking insulin generally require a minimum of three or four checks per day.

Students with T1DM who are participating on sports teams may have to check their blood glucose level more frequently, especially during the first weeks of practice. Changes in the level of physical activity may alter dietary and insulin needs. One of the purposes of BG monitoring is to keep BG levels in the target range. BG target ranges are very individualized and are determined by the healthcare provider. The range is customized to the student's needs and will change as growth, puberty, and diabetes treatment changes.

For students with T2DM, monitoring BG levels is just as important. Certain medications used in the treatment of T2DM can cause hypoglycemia. Regular BG monitoring can help determine if a change to the in the student's treatment is needed.

Adult supervision should be provided as indicated by the student's experience with diabetes care and maturity level. Students who demonstrate appropriate BG checking technique and competence in managing insulin requirements should be allowed to check their BG levels at various campus areas, on field trips, and/or other locations as appropriate (National Association of School Nurses, 2006, p. 770). Students should also demonstrate an understanding of school policy and procedure in the performance of self-care tasks. While documentation that a student understands school rules is not law, it does inform all parties of expectations, responsibilities, and that the school has the right to restrict/ revoke the student's permission to carry and self-administer medications if the student does not adhere to the guidelines.

According to the NDEP (2010, p. 94), and school district policy, a parent or guardian is responsible for providing the school with all equipment, supplies, medications, and plans for the care of their student with diabetes. A parent or guardian is to be notified in advance when supplies are running low and as soon as possible, if equipment needs to be replaced.

Disposable gloves (vinyl preferably), that meet OSHA requirements for handling body fluids, are to be worn if someone is performing the testing other than the student (U. S. Department of Labor, 2008). The employer is responsible for providing personal protective equipment for its employees.

There is a variety of BG meters (glucometers) available. When several students with diabetes are in the school, different types of meters may be used. A RN or physician, knowledgeable in the use of glucose meters, must train unlicensed school personnel, who have been designated to care for students with diabetes, in the proper use of each style of glucose meter. Because of the variety of meters available on the market, each with different features, a copy of the instructions for each student's meter should be kept in the health office (American Diabetes Association, 2008). Reference materials for meters should be available from the parent or manufacturer's toll-free number. Some manufacturers have instruction manuals available on their web site. Information on glucometers is available on the American Diabetes Association web site at: <http://www.diabetes.org/living-with-diabetes/treatment-and-care/blood-glucose-control/blood-glucose-meters.html>

BG monitoring is an important component of diabetes care. Appendix E contains diabetes skills checklists, including BG monitoring. The benefits of blood glucose monitoring at school include:

- provides immediate blood glucose levels so that adjustments in food, medication, or activity can be made,
- information to assess response to therapy and maximize student's ability to participate in learning opportunities,
- confirmation of whether symptoms relate to low (hypoglycemic) or high (hyperglycemic) blood glucose levels, and
- decreased risk to the student of long-term health complications.

Since the BG level results are the basis for diabetes care, it is important to use the proper procedure to assure accuracy of the results. Sample algorithms for blood glucose management are contained in Appendix F. The American Diabetes Association webpage lists several causes of inaccurate blood glucose monitoring results as:

- operator error, such as finger not clean and dry,
- poor technique, including inadequate blood drop (not enough blood),
- code on test strip does not match code on meter (calibration),
- outdated or incorrectly stored test strip,
- unclean meter, and/or
- product malfunction

Procedure for Blood Glucose Monitoring

Note: Parent provides necessary equipment and supplies.

1. Review directions for blood glucose monitoring meter, if not familiar with its operation.
2. Wash and dry hands.
3. Assemble supplies
 - a. alcohol pad
 - b. finger lancing device
 - c. blood monitoring meter (glucometer)
 - d. appropriate blood monitoring strips
 - e. tissue or cotton balls and small bandage
 - f. gloves
 - g. student log
4. Have student wash and dry hands thoroughly with soap and water, removing anything that would affect the blood glucose results. If the unlicensed school personnel is performing the procedure, he/she should put on gloves. Washing student's hands and site for lancing or using hand sanitizer is sufficient for prepping the site; however, alcohol may be used for further prepping. Make sure the site is dry before testing. *Alcohol may cause toughening of the skin or burning sensation. If moisture (water or alcohol) remains on the skin, results of the blood glucose may be altered.*
5. Turn on meter and place glucose monitoring strip into electronic meter according to manufacturer's instructions. Check strip code, if required.
6. Prepare the lancing device according to manufacturer's instructions.
7. Select a site for the specimen prick. If using a finger, use the sides of fingertip. *(The pads of the fingertips may be more sensitive.)* Hang the arm below the level of the heart for 30 seconds to increase blood flow. **If hypoglycemia is suspected: only use the finger for blood specimen, do not use alternate site.**
8. Hold the lancing device to the side of the fingertip and push the button to prick the skin. Gently squeeze the finger in a downward motion to obtain a large enough drop of blood to cover the pad on the strip. *Avoid squeezing the site excessively because excess squeezing can contaminate the sample with tissue fluid, cause clotting of the sample, and damage the site.*
9. Place blood on strip and complete procedure according to manufacturer's instructions. Compress lanced area with tissue or cotton ball until bleeding stops.
10. Dispose of strip and tissue or cotton ball in lined wastebasket. Dispose of lancing device in sharps container.
11. Remove and dispose of gloves. Wash hands.

12. Record the blood glucose results in the student's log. Refer to student's DMMP for appropriate actions. Do not refer to the BG readings as "good" or "bad." Refer to the numbers as "in" or "out" of target range, "above" or "below" target range.

Sources:

- American Diabetes Association. (2008). *Diabetes Care Tasks At School: What Key Personnel Need To Know*. Available online at: <http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/school-staff-trainings/diabetes-care-tasks.html>

Checking Urine

Urine monitoring for glucose is no longer used for diabetic management and insulin dosing. It is appropriate however and recommended that urine be checked to detect the presence of ketones. The DMMP will provide authorization and instructions for monitoring the urine for ketones at school. The parent will provide the necessary supplies for checking urine for ketones. When opening a bottle of ketone test strips, be sure to write the date and your initials on the bottle. Ketone strips in a bottle expire 6 months after opening (National Association of School Nurses, 2011, p. 4.8).

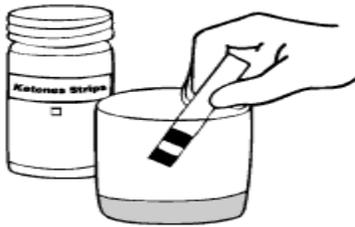
When the body can't use glucose, it uses its own fat and muscle tissue for energy. Ketones are acids that are left in the blood when fat is used for energy. A buildup of ketones in the body can happen when there is not enough insulin given or produced by the body, during an illness or time of extreme bodily stress or with dehydration (American Diabetes Association, 2008). If the body does not receive adequate amounts of insulin so that it can utilize glucose, not only will blood glucose rise, but ketones will continue to build up in the blood. Increased levels of ketones result in a condition called *diabetic ketoacidosis*, also referred to as "DKA."

When there are ketones present, the body will try to get rid of them through the kidneys and through the lungs. The ketones will show up in the urine (identified through the urine check) and may cause the breath to smell fruity. Besides fruity breath, symptoms may include nausea, vomiting, abdominal pain, rapid breathing, thirst, frequent urination, and fatigue/lethargy/drowsiness. It is important to detect and treat the presence of ketones early to prevent the build-up of ketones and progression of symptoms to DKA. **DKA is an emergency** and the number one reason for the hospitalization of children with diabetes. Untreated, progression to DKA may lead to severe dehydration, coma, permanent brain damage, or death" (American Diabetes Association, 2008).

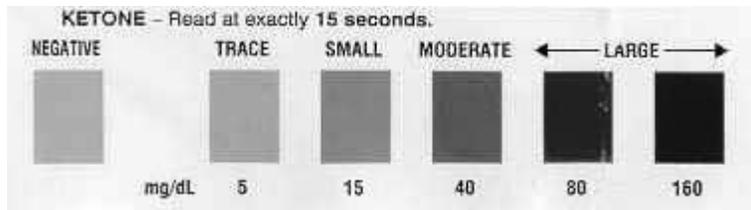
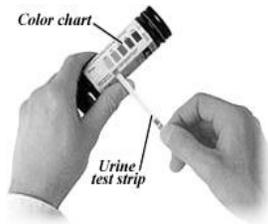
DKA usually progresses over hours or days, but may progress more quickly if the student's blood sugar is managed by an insulin pump (which might run out of insulin) or has an illness or infection (which causes the body to use the fat and muscle tissue for energy if the individual does not eat adequately) (American Diabetes Association, 2008). Many times diabetes symptoms are mistaken for the flu and this may lead to a misdiagnosis of the flu and not the effects of diabetes. The student is most at risk when symptoms of diabetes are mistaken for the flu, the BG is not checked, and a high BG is untreated.

Procedure for Checking Urine

1. Review directions for urine ketone checking, if not familiar with them. Wash hands.
2. Gather supplies:
 - a. bottle of ketone strips
 - b. urine cup, if necessary
 - c. gloves, if caregiver performing
 - d. clock or watch with second hand
3. Have student urinate into cup.
4. Caregiver should put on gloves if performing the check for the student. Dip the strip into the urine and shake off excess urine.



5. Wait the specified amount of time in the directions on the bottle of strips, usually 15 seconds.
6. Read the results by comparing the color on the strip to the chart on the bottle.



1. Record the ketone results on the student's log and take action per the DMMP.
 - a. In general, if results are moderate or large, the student should not engage in physical activity and the parent/guardian should be called to take the student home for observation and/or medical care.
 - b. If urine ketone results are trace or small; notify the parent, increase the fluid intake, and monitor the child.

Sources:

- American Diabetes Association. (2008). *Diabetes Care Tasks At School: What Key Personnel Need To Know*. Available at <http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/school-staff-trainings/diabetes-care-tasks.html>
- National Association of School Nurses. (2011). *Managing diabetes at school: Tools for the school nurse*. Silver Springs: MD, National Association of School Nurses.

MODULE I

INSULIN ADMINISTRATION

Proper Storage of Insulin:

It is important that insulin be stored properly. Always date and initial when a vial is opened. According to the American Diabetes Association (2008), insulin vials should not be kept beyond expiration dates or exposed to extremes in temperature. Extreme temperatures, below 36°F or above 86°F, and excess agitation should be avoided. Avoid freezing the insulin as this causes the insulin to become inactive and not be used effectively in the body.

Most types of opened vials of insulin will stay fresh, without refrigeration, for up to one month, if temperatures do not exceed 86°F (American Diabetes Association, 2008). Opened insulin pen cartridges may last less than 30 days. However, unopened vials should be refrigerated and are considered good until their expiration date. Always refer to manufacturer recommendations for appropriate storage instructions.

Types of Insulin

According to the ADA (2008), there are four basic types of insulin, each is classed by how it works:

- Rapid-acting - Humalog ®, Novolog ®, Apidra
- Short-acting - Regular
- Intermediate-acting - NPH
- Long-acting - Glargine (Lantus), Detemir (Levemir)

Rapid-acting insulins take effect or peak quickly, within 10-15 minutes. This type of insulin is used primarily to treat high blood sugars, to “cover” an increase in blood sugar after eating and/or right before meals. It is also used in insulin pumps. If the student receives an injection of rapid-acting insulin right before their meal or snack, make sure that it is not delayed for more than 15 minutes. This type of insulin may be referred to as *bolus* insulin.

Short-acting insulins are similar to rapid-acting ones. They may also be called *bolus* insulin, but when compared to a rapid-acting insulin, their peak is delayed and their duration is longer.

Intermediate and long-acting insulins are called *basal* insulins. They are not used to treat acute high blood sugar, but rather for coverage during times when the person is not eating, overnight or between meals. School personnel will not be administering these types.

Dosage

Doses of insulin are measured in “units.” One unit of insulin can alter a blood glucose level; therefore, *it is imperative that the ordered dosage be EXACT!* Insulin should only be administered from a properly labeled prescription vial from a pharmacy. Specific written authorization from the student’s health care prescriber and written parent/guardian authorization is required for insulin administration. Written dosing instructions and consents should be

contained in the DMMP.

The following diabetes care procedures have been adapted from the National Association of School Nurses' *Managing Diabetes at School: Tools for the School Nurse* (2011), and the ADA's training curriculum, *Diabetes Care Tasks at School: What Key Personnel Need to Know* (2008). The ADA Power Points are available online at: <http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/school-staff-trainings/diabetes-care-tasks.html>

A. Procedure for Insulin Administration by Syringe

This injection procedure is for the administration of Regular or rapid-acting insulin, not for mixing with other insulin.

Training of unlicensed personnel must be done by a registered nurse or physician. Insulin should be administered only in accordance with the orders of a licensed prescriber and written parent/guardian authorization. Specific guidelines should be provided by the primary health care provider for the conditions (blood glucose levels) under which insulin is to be administered.

Note: Parent/guardian provides necessary equipment, supplies, and medications.

1. Wash hands.
2. Assemble equipment
 - a. vial of insulin
 - b. insulin syringe with needle
 - c. alcohol prep pad
 - d. cotton balls or spot bandage (optional)
 - e. gloves, if done by anyone other than the student
 - f. sharps container
3. If insulin is cold, gently roll the bottle in palms or simply hold the vial in palm of the hand to warm the vial to room temperature. *Injecting cold insulin may cause pain and may affect absorption.*
4. Check insulin type/brand for agreement with the prescriber's order.
 - a. If this is a new bottle of insulin, remove the flat, colored cap. Record the date the bottle is opened and the initials of the person who opened the bottle on the label. **Do not** remove the rubber stopper or the metal band under the cap.
 - b. **Check expiration date** of the vial of insulin. If the bottle was previously opened, also check the date it was opened.
5. Clean the rubber top of the insulin vial with alcohol pad and let dry for a few seconds.
6. Remove the cap from the syringe. Fill the syringe with air equal to the number of units of insulin needed. Air is always injected into the vial to prevent creating a vacuum inside the vial and to make it easier as insulin is removed. Inject air into the insulin bottle with syringe remaining in bottle, invert and pull plunger back beyond the number of units desired.

Keeping the syringe in an upright position, clear any air by pulling plunger back and tapping syringe to raise air bubbles to the top. Push plunger to desired amount of units, ensuring that no air bubbles remain and withdraw the syringe. ***Air bubbles left in the syringe can alter the desired dose of insulin.*** There is minimal danger from injecting an air bubble into the tissue.

7. Slip needle back into cap without touching cap or needle.
8. Put on gloves, select the site to be used and prep with alcohol and let dry. The best absorption is in the lower abdomen, followed by the upper, outer arms, tops of the thighs and lastly the upper areas of the buttocks. If area is dirty, wash with soap and water and dry. Any subcutaneous tissue can be used for injection sites.. Exercise and heat (like the warmth from a heating pad or whirlpool) also hastens absorption of an injected area.
9. Pinch up skin and tissue with one hand. With the other hand, hold the syringe, with the eye of the needle pointing upward, like a pencil. Dart the needle into the “soft pocket” (area that lies directly in front or behind the pinched up skin) at a 90 degree angle.
10. Inject insulin in one to five seconds. Do not aspirate or pull back the plunger.
11. Release pinched up skin, count to five, then remove needle while applying gentle pressure at the injection site for 10-15 seconds. This will help to prevent leakage from the site. *Pinch up skin to avoid injecting into the muscle, as it will hasten absorption. Do not massage the area as it irritates the tissue and hastens absorption.*
12. Dispose of syringe with needle intact into a sharps container. **Do Not Recap Syringe.** *Recapping a contaminated needle can result in a needle stick injury.*
13. Document in student log the dose of insulin given; time given, site used, any reactions or problems noted, and name/initials of person who administered.

B. Procedure for Insulin Administration by Pen Injector

An insulin pen is an insulin delivery system that generally: looks like a large pen, uses an insulin cartridge rather than a vial, and uses disposable needles. Insulin pens assist in preventing dose errors that may occur with a syringe and vial. It provides a means of delivering an accurate dose in a convenient manner. Insulin pens should be handled and stored according to manufacturer’s instructions. There are several styles of insulin pens, depending on the manufacturer, but the procedure for use is similar.



Some pens use replaceable insulin cartridges. When the cartridge is empty a new cartridge is placed in the pen. Other pens do not use replaceable cartridges and the whole pen is disposed of when the cartridge is empty. Most pens use special pen needles which can be extremely short and thin. All pens use replaceable needles.

It is easy to use an insulin pen. If a pen with insulin suspension is used, such as NPH or a premixed insulin, gently shake the pen to be sure the insulin is mixed prior to use. Pens are easy enough for kids to use, and are excellent for use at school or while out and about. Pen needles should be removed after each use to prevent air from entering the cartridge and to prevent insulin from leaking out. There are many different pen needles available, in varying lengths and diameters.

The smallest pen needles are very short and very thin and help minimize the discomfort of injection. Pens need to be held in place for several seconds after the insulin is delivered to make sure that no insulin leaks out. Syringe users who switch to pens should pay close attention to the injection site and test their blood glucose often as they become accustomed to pen injections.

While pens offer injection convenience, they don't allow mixing of multiple types of insulin. Pens offer repeatability in dosing accuracy compared with syringes. Also, because dosing with a pen involves dialing a mechanical device and not looking at the side of a syringe, insulin users with reduced visual acuity can be assured of accurate dosing with a pen.



1. Obtain a blood glucose reading prior to insulin administration.
2. Determine insulin dose with health care provider's orders.
3. Wash hands.
4. Assemble equipment:
 - a. insulin pen device
 - b. pen needle
 - c. alcohol prep pad
 - d. cotton balls or spot bandage (optional)
 - e. gloves (if done by anyone other than student)
 - f. sharps container
5. Check insulin type/brand. This must match health care provider's written orders.
6. Check the level of insulin remaining in the insulin cartridge. *Cartridges are made for multiple doses. Ensure that enough insulin remains in the cartridge for accurate dosing.*
7. Attach new needle. Remove outer plastic cap and plastic needle cover. Place outer cap on a flat surface with open end facing up. *This will assist with needle disposal after insulin is given.*
8. Dial in two (2) units of insulin to perform an "air shot" to "prime" the needle. Insulin should appear at the needle tip; if it does not, repeat procedure. *Change in temperatures can cause air intake. This procedure ensures that any accumulated air will be released, thereby ensuring accurate insulin dosage.*
9. Dial in prescribed dose.
10. Cleanse the skin with alcohol and allow to dry before administering the injection.
11. Pinch up the skin at the selected site and dart the needle into the soft pocket at a 90 degree angle. *The soft pocket lies directly in front of or in back of the pinched up skin.*
12. Push the plunger down and inject insulin at a steady rate.
13. Release the pinched up skin. Count slowly to three (3) or five (5) and then remove the needle. *Some pen manufacturers require a longer count.*
14. Grasping the pen, place the needle into plastic needle cap that was left upright on a flat surface. Unscrew the needle tip and carefully discard into a sharps container. *Do not lift the cap up with fingers to cover needle tip. Leave cap on the counter and use the pen to place the needle into cap to avoid the possibility of a needle stick injury (see Procedure for One-Handed Needle Recapping.) The needle must be changed after each injection, as leaving the pen needle attached leaves an open passageway into the insulin and contamination may*

occur.

15. Document appropriately in student log.

C. Procedure for Insulin Administration by Pump

Insulin pumps are computerized devices, about the size of a cell phone or pager that deliver a continuous pulse of insulin. Students frequently wear their pumps hooked to their belts, or in their pants or shirt pocket, like a cell phone. Insulin is delivered through tubing that ends with a short plastic catheter or metal needle, inserted just under the skin in the fatty tissue.

The internal workings of a pump are simple; it has a reservoir that looks like a large version of a regular syringe. Typically the reservoir holds a two to three day supply of rapid-acting insulin. Pumps immediately supply insulin to the wearer, therefore medium- or long-lasting insulin is not used. The pump is like a syringe with a plunger that is pushed by a small pump to force the insulin out of the reservoir.

The pump must be told exactly what to do. It is programmed to deliver a “basal” amount of insulin throughout the day and boluses as needed for meals and when the wearer’s blood sugar is high. For example, if the wearer's meal plan calls for five units to cover a meal, he or she programs that number on the pump's screen. With this command, the exact amount of insulin is pumped into the thin, clear plastic tubing that delivers the insulin via the plastic needle resting just below the skin in the fatty tissue of the pump wearer. Newer models may have calculation and/or reminder “wizard” functions to help users (American Diabetes Association, 2008).

The plastic needle is changed every two or three days. With the aid of a small needle, the plastic needle is inserted through the skin into the fatty tissue and then taped in place. In newer products, the needle is removed and only a soft catheter remains in place. The insulin bolus empties out of the plastic needle and is absorbed into the body in the same way insulin injected through a syringe would be. The infusion set is where the clear plastic tube connects with the plastic needle. The student can disconnect the tube from the set for sports, showering, or any other short activity.

The pump delivers a basal rate of insulin (the constant base line) in much the same way as the human pancreas. Working with his or her healthcare team, the student with a pump programs the amount of insulin to be released throughout the day. Unless programmed differently, the basal settings release a constant amount of insulin throughout the day. Not all pumps are the same, but they do work in a similar manner.

These machines do a pretty good job of imitating a pancreas, but unlike a healthy pancreas, pumps can't work automatically. They can't decide how much insulin you need or when you need it. This makes the person running it the most important part of the pump. Every action a pump makes starts with the user. So everything that's important in controlling diabetes by using insulin and syringes is just as important when wearing a pump. To use a pump one must be willing to check blood glucose levels frequently and learn how to make adjustments in insulin, food, and

physical activity in response to those test results. The student may or may not need assistance with these tasks, it depends upon the individual (American Diabetes Association, 2008).

Each pump is different and those trained to administer insulin will be trained on the individual student's model. In the health plan, it should specify where at school the student will keep a set of backup pump supplies and an alternate means of administering insulin, just in case there is a problem such as the pump malfunctions, cannula comes loose, the BG is way above target range, or there are ketones in the urine (American Diabetes Association, 2008). Staff should also know how to suspend or disconnect the pump in case the student becomes unconscious or has a seizure.

As truly remarkable as a pump is, it is not a cure for diabetes. It is simply a different way to deliver needed insulin. And for some people, it's a better way.

MODULE J HYPOGLYCEMIA

Hypoglycemia, also called “low blood sugar” or “low blood glucose”, is usually defined as blood glucose values below 70 mg/dL. It is the greatest immediate danger to students with diabetes. Low blood sugar can develop within minutes and **requires immediate attention**. **Never send a child with suspected “low blood sugar” anywhere alone.**

Causes

- too much insulin
- skipping or delaying meals or snacks
- not eating enough food to cover the amount of insulin taken
- exercising too long or intensely
- combination of any of the above

Symptoms

Hypoglycemia is not always preventable and not all students, especially young children, will recognize the symptoms. It is imperative, therefore for school personnel to become familiar with the signs and symptoms.

1. Mild/Moderate Symptoms:

- shakiness
- weakness
- dizziness
- cold, clammy skin
- hunger
- drowsiness
- sweating
- paleness
- rapid heart beat
- visual disturbances
- complaining of “feeling funny”
- numbness or tingling of lips
- yawning
- headache
- confusion
- inability to concentrate
- changes in behavior (irritability, crying, combativeness)
- slurred speech
- nausea

2. Severe Symptoms:

- inability to swallow
- unconsciousness (extreme cases)

- seizures (extreme cases)

Symptoms vary from person to person and from episode to episode. Warning signs and symptoms of low blood sugar happen suddenly and can be mistaken for misbehavior. Many students will not have an awareness of low blood sugar symptoms until around ages 7 or 8 years.

Prevention

- Students should check blood sugar routinely.
- Testing in the classroom may need to be allowed.
- Meals and snacks should be eaten on as regular schedule as possible.
- Meals and snacks should not be skipped.
- Students should be allowed to eat in the classroom.
- Injection sites should be rotated.
- The exact amount of insulin administered should be double checked.
- Plan for extra food and/or reducing insulin amounts before exercise, in accordance with the DMMP.
- Increase the bedtime snack on unusually active days to avoid hypoglycemia during the night while asleep.

Treatment

Treatment is dependent on the severity of the symptoms. Since some of the symptoms are similar to those for hyperglycemia, always treat for hypoglycemia if in doubt. Specific treatment should be outlined in the DMMP, prepared by the health care team, but will look similar to the information given below:

For students who can swallow, follow the “Rule of 15”

1. Treat with 15 grams of a fast-acting carbohydrate source
 - a. Examples of appropriate foods
 - 4 oz. juice
 - 4-6 oz. regular soda
 - 4 glucose tablets (4Grams/tablet)
 - 5-6 Lifesavers or similar candy
 - 8 oz. milk (approx. 12 Grams)
2. Wait 15 minutes, then recheck the blood sugar.
3. If the blood sugar is less than the target range, usually less than 70 mg/dL, keep repeating the 15 grams of carbohydrate and rechecking blood sugar level 15 minutes later until the BG level is back in the desired range. If unable to raise the blood glucose to greater than 70 mg/dL despite fast-acting glucose sources, have the principal or registered nurse notify a parent/guardian immediately.

4. When the blood sugar level is back in the target range, usually over 70 mg/dL, and it is time for a snack or meal, allow the student to eat as usual, count the carbohydrates, and give appropriately calculated insulin dose as ordered. If the meal or snack time is longer than an hour's time or the student will be participating in physical activity, give a protein and carbohydrate snack.
 - a. Examples of appropriate foods
 - ½ sandwich with ½ cup milk
 - 4 graham crackers squares with peanut butter or cheese
 - 6 saltine crackers with peanut butter or cheese

For those students who can't swallow, this is a medical emergency!!

They may be unconscious, unresponsive or having a seizure. Never attempt to give the student food or drink or put anything in the mouth when a student is experiencing these symptoms!

1. Call 911. Enlist the assistance of others to call while treating the child.
2. Position student on his/her left side in a safe area. After administration of glucagon, as the guardian regains consciousness, nausea and vomiting usually occurs. Placing the student on left side will minimize the possibility of the student choking if they should vomit.
3. Inject glucagon following the procedure below.
4. Notify parent/guardian and diabetes medical management team.

Procedure for Giving Glucagon for Severe Hypoglycemia

Note: The parent or guardian provides necessary equipment, supplies, and medications.

1. Verify signs of severe low blood glucose:
 - unable to swallow
 - unconscious
 - combative
 - uncooperative
 - having seizures

Signs are so severe that student cannot participate in care.

2. Have someone call emergency medical services (911), school nurse, and family. The student should not be left unattended. If seizures occur, follow the procedure for managing a seizure.
3. Place student on left side or in upright position if restless/uncooperative. Maintain head position to one side to prevent aspiration or choking.

4. Obtain glucagon kit. Wash hands (if possible) and put on gloves.
5. Flip cap off of the glass vial (bottle) containing the dry powder. Remove the needle cover from the syringe.
6. Take the fluid-filled syringe in the glucagon emergency kit and inject the fluid into the vial containing the glucagon powder. Shake gently or roll to mix until all powder is dissolved and solution is clear. Inspect medication for color, clarity, and presence of lumps. Solution should be clear and colorless.
7. Hold the vial upside down and withdraw the prescribed amount of glucagon back into the syringe. The prescribed amount should be specified in the student's individualized health care plan. Withdraw the needle from the vial. Generally, if the student weighs greater than 45 pounds, the full vial (1 cc) of glucagon may be injected. If the child weighs less than 45 pounds, inject $\frac{1}{2}$ of the solution.
8. When possible, the injection site should be exposed and cleaned. However, glucagon can be administered through clothing, if necessary. Suggested sites include the outer thigh, upper outer buttock, or arm.
9. Inject the needle straight into the muscle of the selected site and inject glucagon.
10. Withdraw the needle and press the site with a cotton ball or wipe. Massage the injection site for 10 seconds; apply bandage if needed.
11. Do not recap syringe. Put used syringe in sharps container.
12. Stay with the student. It may take 15-20 minutes for the student to regain consciousness.
13. Recheck the blood sugar. Follow the student's specific instructions for response to results. Some students may have a second injection of glucagon ordered if glucose remains low.
14. The student may be given sips of fruit juice or regular soda once awake and able to drink. This may be followed by a snack containing protein and carbohydrates such as a peanut butter sandwich or cheese crackers to keep blood sugar levels elevated to normal levels and to prevent recurrence.
15. Do not be surprised if the student does not remember being unconscious, incoherent or has a headache. The blood sugar may also rise over 200 and nausea or vomiting may occur.
16. When emergency services arrive, the student is to be transported for medical care.
17. Document in student log.

Source: American Diabetes Association. (2008). Diabetes Care Tasks At School: What Key Personnel Need To Know. Available at: <http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/school-staff-trainings/diabetes-care-tasks.html>

MODULE K HYPERGLYCEMIA

Hyperglycemia, or “high blood sugar”, or high blood glucose (BG), is when the level of sugar in the blood is greater than 240 mg/dL. Over a long period of time, even moderately high BG levels can lead to serious complications, such as blindness, heart disease, kidney failure, and amputations. In the short term, hyperglycemia can result in poor academic performance by interfering with the ability to concentrate and reason. Students who will be checking their blood sugars at various times during the day are generally able to self-treat. However, students may require occasional assistance.

Prevention

Hyperglycemia or too high blood sugar levels in children who are diagnosed with diabetes can be the result of such things as:

- taking too little insulin
- ingesting food that is not covered by the appropriate amount of insulin
- decreasing the usual amount of exercise or activity
- using “expired” insulin or insulin that was not stored properly and has lost potency
- having an illness, infection, or injury
- being stressed or emotionally upset
- having hormone fluctuations as with menstrual cycles or using certain medications
- rebounding from a low blood sugar
- no apparent reason

Timing is very important in the prevention of hyperglycemia. The American Diabetes Association recommends that individuals with diabetes stick to a schedule: eat on time, check the BG on time, take medications on time, and exercise on time. Make sure that insulin dosing is accurate as is accounting for meals and snacks. It is important to keep as regular a routine as possible.

Symptoms

The usual signs of hyperglycemia are:

Mild	Moderate	Severe
<ul style="list-style-type: none">• Blood glucose usually over 240• Increased thirst• Frequent urination• Fatigue/sleepiness• Increased hunger• Loss of concentration• Blurred vision• Urine ketones (0-small)	<ul style="list-style-type: none">• Blood glucose usually over 240• Sweet breath• Dry mouth• Nausea• Stomach cramps• Vomiting• Urine Ketones (Moderate-Large)	<ul style="list-style-type: none">• Blood glucose usually over 240• Labored breathing• Very weak• Confused• Unconscious• Urine ketones (Moderate-Large)

Treatment

The unlicensed school personnel should consult with the registered nurse for emergency treatment. The goal of treatment is to lower the blood sugar. Each student should have a DMMP that is consulted to determine the plan of action. Treatment is dependent on how high the blood sugar is, whether or not urine ketones are present, and if the student is symptomatic. Possible interventions include administering additional insulin, encouraging sugar-free fluids such as water and diet soda, checking urine ketones, and limiting physical activity.

Mild	Moderate	Severe
<ol style="list-style-type: none">1. Drink zero-calorie fluids (i.e. water)2. Administer one (1) 15 g tube of single use glucose gel3. Check urine ketones4. Decrease activity if ketones present5. Notify a parent/guardian	<ol style="list-style-type: none">1. Drink zero-calorie fluids (i.e. water)2. Administer one (1) 15 g. tube of single use glucose gel3. Check urine ketones4. Decrease activity, call the doctor, anti-nausea suppository if prescribed5. Notify a parent/guardian	<ol style="list-style-type: none">1. Call 9112. Notify parents3. Notify health care provider if a parent/guardian cannot be reached

Students should have free and unrestricted access to water or sugar-free liquids and the restroom.

Parameters as to when to notify a parent/guardian and/or the physician should be contained in the DMMP.

Prolonged hyperglycemia can cause a potentially life threatening condition called diabetic ketoacidosis (DKA). Symptoms of DKA include a fruity breath odor, nausea, vomiting, stomach pain, and, if untreated, deep breathing, increasing sleepiness, coma, and death. Students who use insulin pumps can go into DKA in a matter of hours if their pumps stop delivering insulin appropriately.

Sources:

- American Diabetes Association. (2008). *Diabetes Care Tasks At School: What Key Personnel Need To Know*. Available online at: <http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/school-staff-trainings/diabetes-care-tasks.html>

MODULE L

STORAGE AND DISPOSAL OF MEDICAL SUPPLIES

Recommended school supplies

A parent/guardian is responsible for providing the school with all the supplies and equipment necessary to implement the DMMP and related educational plans (The National Diabetes Education Program, 2010; American Diabetes Association, 2011a) (Medication Administration Manual for Non-Licensed School Personnel, 2013). A parents or guardian is encouraged to meet with the school nurse, teacher(s), and necessary school personnel before the student with diabetes attends school to discuss the needs of the student and the school schedule. The following supplies should be provided by the parent/guardian and placed in the school health office. The supplies will need to be replaced by a parent or guardian as they are used. For an itemized list of supplies, see Appendix E.

- blood glucose meter and test strips
- lancing device and lancets
- urine ketone strips
- glucagon emergency kit
- concentrated sugar source
 - glucose tablets
 - cake icing or gel (fat free)
- all snacks (i.e. cheese or peanut butter crackers)
- insulin and insulin syringes
- insulin pen and disposable needles
- insulin pump supplies

Storage and disposal of medical supplies

Each local school district should have policies regarding storage of medications and syringes. According to the Medication Administration Manual for Non-Licensed School Personnel (2013) it is recommended that medications and syringes be kept in an appropriately labeled, secure, locked container or cabinet accessible only to the responsible authorized school personnel; however, the keys to the cabinet should be easy to access in an emergency. The Manual also recommends that the glucagon kit should be stored at room temperature in an area where the trained non-licensed personnel will have easy access to it. As per KRS 158.838, the expiration date of the Glucagon kit should be checked monthly and a parent/guardian notified one month in advance of the expiration date.

Used needles, syringes, and lancets are to be disposed of in a properly labeled biohazard sharps container or disposed of according to the school district's bloodborne pathogen OSHA plan.

A parent/ guardian should be informed to pick up unused medication within one week of the expiration date or by the last day of school. A parent /guardian should be notified and given sufficient time to pick up remaining medication, according to school policy. Medication

remaining after the designated date for pick up shall be destroyed per the details contained in the Medication Manual.

MODULE M DOCUMENTATION

Documentation is the legal record that medication has been ordered, a parent/guardian have given written authorization for the provision of health services per district policy and that the school staff have given the medication and/or performed procedures. Students should have individual health records for documenting medication administration and/or completion of procedures. Documentation is commonly considered the “sixth right” of medication administration.

Student health records are education records and are protected under the Family Education Rights and Privacy Act (FERPA). Records should be securely maintained to ensure student privacy, per school board policy. Forms for documenting the administration of medications and treatments vary by school district. Student health records should be maintained in accordance with the appropriate Records Retention Schedule(s).

The following documentation should be maintained for students with diabetes:

- signed authorizations, updated annually by a parent/guardian and physician and may include
 - diabetes medical management plan
 - individualized health care plan
 - emergency care plan
 - authorization to give insulin and glucagon in the school setting
- medication administration documentation including:
 - blood sugar results record carbohydrate count
- nurses notes of any care provided, notes made by the non-licensed school personnel including non-diabetes related care
- description of any complications from medications and/or treatments

The student health record may also be maintained in the Kentucky Student Health Information System (KSIS) in lieu of paper records.

MODULE N EMERGENCY CARE PLAN

Each student diagnosed with diabetes should have an emergency care plan (201 KAR 20:405) and a diabetes emergency kit. The kit should be kept in a secure location as discussed in the medication storage section and known to the student and to any non-licensed school staff member who may be treating hypoglycemia. If the student leaves the campus, e.g. to go on a field trip, the emergency kit should go with the student. The label on the kit should state “Diabetes Emergency Kit” along with the student’s name.

An emergency care plan should be written and provided to non-licensed school personnel who have responsibility for the student with diabetes during the school day. The emergency care plan should be based on the information in the student’s DMMP. The plan should summarize how to recognize and treat hypoglycemia and hyperglycemia. It should be distributed to all non-licensed school personnel who have responsibility for the student, during the school day and during school-sponsored activities (The National Diabetes Education Program, 2010, p. 97). Sample plans are available Section 3 of the NDEP book, *Helping the Student with Diabetes Succeed: A Guide for School Personnel*.

For each student in the school with diabetes, a source of fast-acting sugar and a small snack (ex. cheese crackers and box juice) should be readily available. It is the parent/guardian’s responsibility to supply any necessary fast-acting sugar or snack that may be needed by the student

Examples of what should be included in a Diabetes Emergency Care Kit

<ul style="list-style-type: none">• Blood glucose meter, testing strips Lancets and batteries for meter• Urine ketones strips• Insulin and supplies• Insulin pump and supplies including syringes• Other medications	<ul style="list-style-type: none">• Antiseptic wipes• Fast-acting source of glucose (e.g. glucose gel)• Carbohydrate-containing snacks (e.g. cheese crackers, peanut butter crackers)• Hypoglycemia food supplies : quick-acting sugar and carbohydrate/protein snacks• Glucagon emergency kit• Bottled water
--	--

RESOURCES & REFERENCES

American Diabetes Association
ATTN: National Call Center
1701 North Beauregard Street
Alexandria, Virginia 22311
<http://www.diabetes.org/>
1-800-342-2383

Juvenile Diabetes Foundation
120 Wall Street, 19th Floor
New York, New York 10005-4001
<http://www.jdrf.org/>
1-800-JDF-CURE
1-212-785-9595

Kentucky Department for Health
Kentucky Diabetes Prevention & Control Program
275 East Main Street, HS2WE
Frankfort, KY 40621
502- 564-7996

American Academy of Pediatrics. (2008). Role of the school nurse in providing school health services. *Pediatrics*, 121(5), 1052-1056. Retrieved 12/6/13, from <http://pediatrics.aappublications.org/content/121/5/1052.full.pdf+html>

American Diabetes Association. (2008). *Diabetes care tasks at school: What key personnel need to know*. Retrieved 12/6/13, from American Diabetes Association: <http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/school-staff-trainings/diabetes-care-tasks.html>

American Diabetes Association. (2013, January). Diabetes care in the school and day care setting. *Diabetes Care*, 34(S1), pp. S75-S79. Retrieved from American Diabetes Association: Position statements: <http://www.diabetes.org/assets/pdfs/schools/ps-diabetes-care-in-the-school-and-daycare-setting.pdf>.

American Diabetes Association. (2011b). Standards of medical care in diabetes – 2011. Retrieved 12/6/13, from *Diabetes Care*, 34 Suppl 1S11-S61. Retrieved 12/6/13, from: http://care.diabetesjournals.org/content/34/Supplement_1

American Diabetes Association. (n.d.). *Tips for teachers of students with diabetes*. Retrieved 12/6/13, from American Diabetes Association: <http://www.diabetes.org/assets/pdfs/schools/tentipsforteachers.pdf>

American Diabetes Association. (2004). *Sample Section 504 Plan & Diabetes Medical Management Plan for a student with diabetes*. Available online at: <http://www.diabetes.org/advocacy-and-legalresources/discrimination/school/504plan.jsp>.

Borushek, A. (2011). *CalorieKing calorie, fat and carbohydrate counter*. Costa Mesa, CA: Family Health Publications.

Butler, S. (2011, July). *Introduction to carbohydrate counting*. NASN School Nurse. 26(4), pp. 257-259.

Centers for Disease Control. (2010, June 3). *Childhood Obesity*. Retrieved 12/6/13, from Healthy Youth: Health Topics: <http://www.cdc.gov/HealthyYouth/obesity/>

Clarke W: Advocating for the child with diabetes. *Diabetes Spectrum* 12:230–236, 1999.

Juvenile Diabetes Research Foundation. (2011). *Helping your child or teen live with type 1 diabetes*. Retrieved 12/6/13, from Juvenile Diabetes Research Foundation: http://www.jdrf.org/index.cfm?page_id=103523

Kentucky Department of Education (2013). *Medication Administration Manual for Non-licensed School Personnel*.

National Association of School Nurses. (2005). *Delegation of care: Overview for the registered nurse practicing in the school setting*. Scarborough, ME: National Association of School Nurses.

National Association of School Nurses. (2006, June). *School nurse role in the care and management of the child with diabetes in the school setting*. Retrieved June 8, 2011, from National Association of School Nurses: Position Statements: <http://www.nasn.org/PolicyAdvocacy/PositionPapersandReports/NASNPositionStatementsArticleView/tabid/462/ArticleId/22/Diabetes-in-the-School-Setting-School-Nurse-Role-in-Care-and-Management-of-the-Child-with-Revised-20>

National Association of School Nurses. (2006). *School nursing: A comprehensive text*. (J. Selekman, Ed.) Philadelphia, PA: F. A. Davis Company.

National Institutes of Health. (2008, November). *Diabetes Overview: NIH Publication No. 09–3873*. Retrieved 12/6/13, from National Diabetes Information Clearinghouse: <http://diabetes.niddk.nih.gov/dm/pubs/overview/>

National Association of School Nurses. (2011). *Managing diabetes at school: Tools for the school nurse*. Silver Springs, MD: National Association of School Nurses.

National Institutes of Health. (2011, February). *National Diabetes Statistics – 2011: NIH Publication No. 11–3892*. Retrieved 12/6/13, from National Diabetes Information Clearinghouse: <http://diabetes.niddk.nih.gov/dm/pubs/statistics/#ddY20>

National Institutes of Health. (2008, November). *Diabetes Overview: NIH Publication No. 09–3873*. Retrieved 12/6/13, from: <http://diabetes.niddk.nih.gov/dm/pubs/overview/>

U. S. Department of Education. (2011, April 8). *Family Educational Rights and Privacy Act (FERPA)*. Retrieved 12/6/13, from: <http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html>

U. S. Department of Education. (n.d.). *Building the legacy: IDEA 2004: Regulations Part 300/A/300.8*. Retrieved 12/6/13, from: <http://idea.ed.gov/explore/view/p/%2Croot%2Cregs%2C300%2CA%2C300%252E8%2C>

U. S. Department of Education. (2010, August). *Office of civil rights: Free appropriate public education for students with disabilities: Requirements under Section 504 of the Rehabilitation Act of 1973*. Retrieved 12/6/13, from: <http://www2.ed.gov/about/offices/list/ocr/docs/edlite-FAPE504.html>

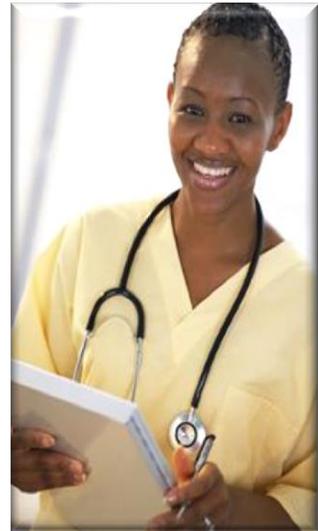
U. S. Department of Education. (2009, December 29). Office of Special Education and Rehabilitative Services. Retrieved 12/6/13, from: <http://www.ed.gov/about/offices/list/osers/osep/index.html>

U. S. Department of Justice. (2010, September). *Americans with Disabilities Act: Title II Regulations*. Retrieved 12/6/13, from Americans with Disabilities Act: http://www.ada.gov/regs2010/titleII_2010/titleII_2010_regulations.pdf

U. S. Department of Labor. (2008). Occupational Safety & Health Standards: Part 1910: Bloodborne pathogens. Retrieved 12/6/13, from Occupational Safety and Health Administration: http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10051

Zimmerman, B. (2006). Student health plans and education plans. In NASN, and J. Selekman (Ed.), *School nursing: a comprehensive text* (pp.177-203). Philadelphia, PA: F.A. Davis Company.

Appendices



Appendix A

Glossary

Blood Glucose Level: The amount of glucose or sugar in the blood. For monitoring/testing the student independently or with assistance use a drop of their blood and a specially calibrated device to determine the current blood glucose level.

Bolus: A dose of insulin delivered when a child eats or to lower high blood glucose levels in response to a high blood glucose reading.

Delegation: KRS 314.011(2) defines "delegation" as ... Directing a competent person to perform a selected nursing activity or task in a selected situation under the nurse's supervision and pursuant to administrative regulations promulgated by the board in accordance with the provisions of KRS Chapter 13A.

Diabetic Ketoacidosis (DKA): Severe, out-of-control high blood glucose levels that need emergency treatment. DKA happens when blood glucose levels get too high or insulin levels are far less than the body needs. This may happen because of illness or taking too little insulin. The body starts using stored fat for energy and ketone bodies and acids build up in the blood. The signs include nausea and vomiting, stomach pain, deep, rapid breathing, flushed face, rapid weak pulse, dry skin and a fruity breath odor. Fluids and insulin must be given quickly since ketoacidosis can lead to coma and even death.

Carbohydrate Counting: The method of calculating the number of grams of carbohydrate in the food the child eats. In conventional insulin therapy when used in its simplest form, this is a method of maintaining consistency in carbohydrate intake from day to day. When this is used in intensive therapy it serves as the basis for determining the amount of insulin to administer for any given meal.

Glucagon: A hormone produced in the pancreas that raises the level of glucose in the blood. A Glucagon injection may be given to diabetic child in an emergency to raise extremely low blood glucose levels.

Hyperglycemia: A condition in which blood glucose levels are elevated, generally 240 mg/dl or higher.

Hypoglycemia: A condition in which blood glucose levels are low, generally 70 mg/dl or lower.

Individualized Health Care Plan: A nursing care plan developed by the registered nurse describing the way health related services will be provided to specific students in the school setting. It can be a stand-alone care plan or an attachment to the *Diabetes Medical Management Plan*, which is provided by the physician and parent/guardian. It should also

include any other information not covered in the **Information Sheet for the School Management of Diabetes Mellitus** that the school nurse identified during the care planning process with parents and school personnel.

Insulin: A hormone secreted by the islet cells in the pancreas that allows the body's cells to absorb glucose for energy. It is used as a medication when the body does not make enough insulin to maintain proper blood glucose levels.

Mg/dL- Milligrams per deciliter: A unit of measurement used in blood glucose monitoring to describe how much glucose is in a specific amount of blood.

Non- licensed school personnel: Any individual who has been trained and delegated to perform health-related services for students while they are in school. These individuals may also be referred to as unlicensed assistive personnel (UAP).

Nursing Care Plan: See **Individualized Health Care Plan (IHCP).**

School Nurse: A registered nurse or licensed practical nurse (supervised by a registered nurse) and licensed to practice in Kentucky who is employed by the, local school district, county health department or contracted by the county health department or local school district. The school nurse may be assigned to one or more schools and provides leadership and services consistent with the Kentucky Nurse Practice Act (KRS Chapter 314) and the Kentucky Department of Education.

Sliding Scale: A medical order for adjusting the insulin dose on the basis of blood glucose monitoring. It is sometimes referred to as supplemental insulin or a correction dose. In some cases the amount of insulin to be given is calculated with a simple mathematical formula specific to the student.

Supervision: "Supervision" as defined in 201 KAR 20:400 Section 1(9) means "the provision of guidance by a qualified nurse for the accomplishment of a nursing task with periodic observation and evaluation of the performance of the task including validation that the nursing task has been performed according to established standards of practice."

Appendix B

Explanation of Acronyms

ADA	American Diabetes Association
BG	blood glucose
CSII	continuous subcutaneous insulin infusion
DKA	diabetic ketoacidosis
DMMP	diabetes medical management plan
ECP	emergency care plan
IDEA	Individuals with Disabilities Education Act
IHP	individualized health plan
KAR	Kentucky Administrative Regulations
KBN	Kentucky Board of Nursing
KRS	Kentucky Revised Statutes
LPN	Licensed Practical Nurse
MDI	multiple daily injection
NASN	National Association of School Nurses
NDEP	National Diabetes Educational Program
OSHA	Occupational Safety and Health Administration
RN	Registered Nurse
T1DM	Type 1 Diabetes Mellitus
T2DM	Type 2 Diabetes Mellitus

Appendix C

Excerpts from Kentucky Revised Statutes Pertaining to the Administration of Insulin and Glucagon in the School Setting

Kentucky State Statutes & Regulations

KRS 156.501 Student health services -- Responsibilities of Department of Education and Department for Public Health -- Filling of position --Funding.

- (1) The Department of Education shall provide leadership and assistance to local school districts relating to student health services. The department, working in cooperation with the Department for Public Health, shall provide, contract for services, or identify resources to improve student health services, including but not limited to the following:
 - (a) Standardized protocols and guidelines for health procedures to be performed by health professionals and school personnel. The protocols and guidelines shall include but not be limited to the following:
 1. The delegation of nursing functions consistent with administrative regulations promulgated by the Kentucky Board of Nursing;
 2. Training of designated nonmedical school personnel; and
 3. Appropriate documentation and recordkeeping including, but not limited to, notification to school administrators and parents or guardians of the provision of health services by a school employee, including certification of medical necessity for health services signed by a health care professional, and informed consent for the provision of health services by a parent or guardian. A copy of the protocols and guidelines shall be made available to each school in the Commonwealth and shall be maintained by each school in the school's library;
 - (b) Consultation, technical assistance, and development of quality improvement measures for the state and local boards of education, individual public schools, and local health departments;
 - (c) Facilitation of statewide and local data collection and reporting of school health services; and
 - (d) Information and resources that relate to the provision of school health services.
- (2) The Department of Education shall establish a position to assist in carrying out the responsibilities required under subsection (1) of this section. The position may be established with existing personnel resources, or by contract, with an individual who:
 - (a) Holds, at a minimum, a bachelor's degree in nursing with a master's degree in nursing or a related field from an accredited postsecondary institution; and
 - (b) Is a registered nurse licensed under the provisions of KRS Chapter 314.
- (3) The Department of Education shall provide fifty percent (50%) of the costs for the position required by subsection (2) of this section and the Department for Public Health shall provide the remaining fifty percent (50%) for the position. The Department of Education may enter into a contractual arrangement, such as a Memorandum of Agreement, with the Department for Public Health to share the costs.

History: Created 2002 Ky. Acts ch. 294, sec.1, effective July 15, 2002. Effective: July 15, 2002

KRS 156.502 Health services in school setting -- Designated provider – Liability protection.

- (1) As used in this section:
- (a) "Health services" means the provision of direct health care, including the administration of medication; the operation, maintenance, or health care through the use of medical equipment; or the administration of clinical procedures. "Health services" does not include first aid or emergency procedures; and
 - (b) "School employee" means an employee of the public schools of this Commonwealth.
- (2) Health services shall be provided, within the health care professional's current scope of practice, in a school setting by:
- (a) A physician who is licensed under the provisions of KRS Chapter 311;
 - (b) An advanced practice registered nurse, registered nurse, or licensed practical nurse who is licensed under the provisions of KRS Chapter 314; or
 - (c) A school employee who is delegated responsibility to perform the health service by a physician, advanced practice registered nurse, or registered nurse; and
1. Has been trained by the delegating physician or delegating nurse for the specific health service, if that health service is one that could be delegated by the physician or nurse within his or her scope of practice; and
 2. Has been approved in writing by the delegating physician or delegating nurse. The approval shall state that the school employee consents to perform the health service when the employee does not have the administration of health services in his or her contract or job description as a job responsibility, possesses sufficient training and skills, and has demonstrated competency to safely and effectively perform the health service. The school employee shall acknowledge receipt of training by signing the approval form. A copy of the approval form shall be maintained in the student's record and the personnel file of the school employee. A delegation to a school employee under this paragraph shall be valid only for the current school year.
- (3) If no school employee has been trained and delegated responsibility to perform a health service, the school district shall make any necessary arrangement for the provision of the health service to the student in order to prevent a loss of a health service from affecting the student's attendance or program participation. The school district shall continue with this arrangement until appropriate school personnel are delegated the responsibility for health care in subsection (2) of this section.
- (4) A school employee who has been properly delegated responsibility for performing a medical procedure under this section shall act as an agent of the school and be granted liability protection under the Federal Paul P. Coverdell Teacher Liability Protection Act of 2001, Pub. L. No. 107-110, unless the claimant establishes by clear and convincing evidence that harm was proximately caused by an act or omission of the school employee that constitutes negligence, willful or criminal misconduct, or a conscious, flagrant indifference to the rights and safety of the individual harmed.
- (5) Nothing in this section shall be construed to deny a student his or her right to attend public school and to receive public school services, or to deny, prohibit, or limit the administration of emergency first aid or emergency procedures.

Effective: July 15, 2010

History: Amended 2010 Ky. Acts ch.85, sec.29, effective July 15, 2010. --Created 2002 Ky. Acts ch.294, sec.2, effective July 15, 2002.

Kentucky Revised Statutes 158.838 Emergency administration of diabetes and seizure disorder medications -- Required written statements -- Limitation on liability --- Renewal of permission -- Expiration dates of medication—Self-performance of diabetes care tasks—Diabetes or seizure disorder not to prevent attendance at school the student would ordinarily attend.

- (1) (a) Beginning July 15, 2014, the board of each local public school district and the governing body of each private and parochial school or school district shall have at least one (1) school employee at each school who has met the requirements of KRS 156.502 on duty during the entire school day to administer or assist with the self-administration of the following medication:
 1. Glucagon subcutaneously to students with diabetes who are experiencing hypoglycemia or other conditions noted in the health care practitioner's written statement under subsection (2)(b) of this section;
 2. Insulin subcutaneously, through the insulin delivery method used by the student and at the times and under the conditions noted in the health care practitioner's written statement under subsection (2)(b) of this section; and
 3. A seizure rescue medication approved by the United States Food and Drug Administration and any successor agency.
 - (b) For those assigned the duties under paragraph (a) of this subsection, the training provided under KRS 156.502 shall include instruction in administering insulin and glucagon, as well as recognition of the signs and symptoms of hypoglycemia and hyperglycemia and the appropriate steps to be taken to respond to these symptoms.
 - (c) Any training program or guidelines adopted by any state agency for training of school personnel in the diabetes care tasks covered by this section shall be fully consistent with training programs and guidelines developed by the American Diabetes Association. Notwithstanding any state agency requirement or other law to the contrary, for purposes of this training a local school district shall be permitted to use any adequate and appropriate training program or guidelines for training of school personnel in the diabetes care tasks covered under this section.
- (2) Prior to administering any of the medications listed under subsection (1)(a) of this section to a student, the student's parent or guardian shall:
 - (a) Provide the school with a written authorization to administer the medication at school;
 - (b) Provide a written statement from the student's health care practitioner, which shall contain the following information:
 1. Student's name;
 2. The name and purpose of the medication;
 3. The prescribed dosage;
 4. The route of administration;
 5. The frequency that the medication may be administered; and
 6. The circumstances under which the medication may be administered; and
 - (c) Provide the prescribed medication to the school in its unopened, sealed package with the label affixed by the dispensing pharmacy intact.

- (3) The statements required in subsection (2) of this section shall be kept on file in the office of the school nurse or school administrator.
- (4) The school district or the governing body of each private and parochial school or school district shall inform the parent or guardian of the student that the school and its employees and agents shall not incur any liability as a result of any injury sustained by the student from any reaction to any medication listed under subsection (1)(a) of this section that a parent or guardian has authorized the school district to administer to a student to treat a hypoglycemic or hyperglycemic episode or a seizure or its administration, unless the injury is the result of negligence or misconduct on behalf of the school or its employees. The parent or guardian of the student shall sign a written statement acknowledging that the school shall incur no liability except as provided in this subsection, and the parent or guardian shall hold harmless the school and its employees against any claims made for any reaction to any medication listed under subsection (1)(a) of this section that a parent or guardian has authorized the school district to administer to a student to treat a hypoglycemic or hyperglycemic episode or a seizure or its administration if the reaction is not due to negligence or misconduct on behalf of the school or its employees.
- (5) The permission for the administration of any of the medications listed under subsection (1)(a) of this section shall be effective for the school year in which it is granted and shall be renewed each following school year upon fulfilling the requirements of subsections (2) to (4) of this section.
- (6) The school nurse or school administrator shall check the expiration date monthly for each medication listed under subsection (1)(a) of this section that is in the possession of the school. At least one (1) month prior to the expiration date of each medication, the school nurse or school administrator shall inform the parent or guardian of the expiration date.
- (7) Upon the written request of the parent or guardian of the student and written authorization by the student's health care practitioner, a student with diabetes shall be permitted to perform blood glucose checks, administer insulin through the insulin delivery system the student uses, treat hypoglycemia and hyperglycemia, and otherwise attend to the care and management of his or her diabetes in the school setting and at school-related activities. A student shall be permitted to possess on his or her person at all times necessary supplies and equipment to perform these monitoring and treatment functions. Upon request by the parent or student, the student shall have access to a private area for performing diabetes care tasks.
- (8) (a) Beginning July 15, 2014, a school district shall permit a student who has diabetes or a seizure disorder to attend the same school the student would attend if the student did not have diabetes or a seizure disorder. Such a student may only be transferred to a different school based on health care needs if the individualized education program team, the Section 504 team, or, if appropriate, the student's health services team, makes the determination that the student's health condition requires that the student's care be provided by a licensed health care professional at a different school. For the purpose of this determination, the teams shall include the parent or guardian. The parent or guardian may invite the student's treating physician to the team meeting and the team shall consider the physician's input, whether in person or in written form, when making this determination. This determination shall be based on individualized factors related to the student's health conditions. A school district shall not prohibit a student who has diabetes or a seizure disorder from attending any school on the sole basis that:

1. The student has diabetes or a seizure disorder;
 2. The school does not have a full-time school nurse; or
 3. The school does not have school employees who are trained in accordance with KRS 156.502 and assigned to provide care under this section.
- (b) Parents or guardians of students who have diabetes or a seizure disorder shall not be required or pressured by school personnel to provide care for a student with diabetes or a seizure disorder during regular school hours or during school-related activities in which the student is a participant. For the purposes of this paragraph, a participant is not a student who merely observes the activity.
- (9) The requirements of subsections (1) to (8) of this section shall apply only to schools that have a student enrolled who:
- (a) Has a seizure disorder and has a seizure rescue medication approved by the United States Food and Drug Administration and any successor agency prescribed by the student's health care provider; or
 - (b) Has diabetes mellitus and has any of the medications listed under subsection (1)(a) of this section prescribed by the student's health care provider.
- (10) Nothing in this section shall be construed to require a school employee to consent to administer medications listed under subsection (1)(a) of this section to a student if the employee does not otherwise consent to provide the health service under KRS 156.502.
- (11) Notwithstanding any other provision of the law to the contrary:
- (a) The administration of the medications listed under subsection (1)(a) of this section by school employees shall not constitute the practice of nursing and shall be exempt from all applicable statutory and regulatory provisions that restrict the activities that may be delegated to or performed by a person who is not a licensed health care professional; and
 - (b) A licensed health care professional may provide training to or supervise school employees in the administration of the medications listed under subsection (1)(a) of this section.

Effective: March 5, 2014

History: Amended 2014 Ky. Acts ch. 3, sec. 2, effective March 5, 2014. -- Created 2005 Ky. Acts ch. 177, sec. 2, effective June 20, 2005.

KRS Chapter 314 Kentucky Nursing Law

KRS 314.011 Definitions for chapter.

As used in this chapter, unless the context thereof requires otherwise:

- (1) "Board" means Kentucky Board of Nursing;
- (2) "Delegation" means directing a competent person to perform a selected nursing activity or task in a selected situation under the nurse's supervision and pursuant to administrative regulations promulgated by the board in accordance with the provisions of KRS Chapter 13A;
- (3) "Nurse" means a person who is licensed or holds the privilege to practice under the provisions of this chapter as a registered nurse or as a licensed practical nurse;
- (4) "Nursing process" means the investigative approach to nursing practice utilizing a method of problem-solving by means of:
 - (a) Nursing diagnosis, a systematic investigation of a health concern, and an analysis of the data collected in order to arrive at an identifiable problem; and

- (b) Planning, implementation, and evaluation based on nationally accepted standards of nursing practice;
- (5) "Registered nurse" means one who is licensed or holds the privilege under the provisions of this chapter to engage in registered nursing practice;
- (6) "Registered nursing practice" means the performance of acts requiring substantial specialized knowledge, judgment, and nursing skill based upon the principles of psychological, biological, physical, and social sciences in the application of the nursing process in:
 - (a) The care, counsel, and health teaching of the ill, injured, or infirm;
 - (b) The maintenance of health or prevention of illness of others;
 - (c) The administration of medication and treatment as prescribed by a physician, physician assistant, dentist, or advanced practice registered nurse and as further authorized or limited by the board, and which are consistent either with American Nurses' Association Standards of Practice or with Standards of Practice established by nationally accepted organizations of registered nurses.

Components of medication administration include but are not limited to:

1. Preparing and giving medications in the prescribed dosage, route, and frequency, including dispensing medications only as defined in subsection (17)(b) of this section;
2. Observing, recording, and reporting desired effects, untoward reactions, and side effects of drug therapy;
3. Intervening when emergency care is required as a result of drug therapy;
4. Recognizing accepted prescribing limits and reporting deviations to the prescribing individual;
5. Recognizing drug incompatibilities and reporting interactions or potential interactions to the prescribing individual; and
6. Instructing an individual regarding medications;
- (d) The supervision, teaching of, and delegation to other personnel in the performance of activities relating to nursing care; and
- (e) The performance of other nursing acts which are authorized or limited by the board, and which are consistent either with American Nurses' Association Standards of Practice or with Standards of Practice established by nationally accepted organizations of registered nurses;
- (7) "Advanced practice registered nurse" means a certified nurse practitioner, certified nurse anesthetist, certified nurse midwife, or clinical nurse specialist, who is licensed to engage in advance practice registered nursing pursuant to KRS 314.042 and certified in at least one (1) population focus;
- (8) "Advanced practice registered nursing" means the performance of additional acts by registered nurses who have gained added knowledge and skills through an approved organized postbasic program of study and clinical experience; who are certified by the American Nurses' Association or other nationally established organizations or agencies recognized by the board to certify registered nurses for advanced practice registered nursing as a certified nurse practitioner, certified nurse anesthetist, certified nurse midwife, or clinical nurse specialist; and who certified in at least one (1) population focus. The Additional acts shall, subject to approval of the board, include but not be limited to prescribing treatment, drugs, devices, and ordering diagnostic tests. Advanced practice registered nurses who engage in these additional acts shall be authorized to issue prescriptions for and dispense nonscheduled legend drugs as defined in KRS 217.905 and to issue prescriptions for but not to dispense Schedules II through V controlled substances as

classified in KRS 218A.060, 218A.070, 218A.080, 218A.090, 218A.100, 218A.110, 218A.120, and 218A.130, under the conditions set forth in KRS 314.042 and regulations promulgated by the Kentucky Board of Nursing on or before August 15, 2006.

(a) Prescriptions issued by advanced practice registered nurses for Schedule II controlled substances classified under KRS 218A.060 shall be limited to a seventy-two (72) hour supply without any refill. Prescriptions issued under this subsection for psychostimulants may be written for a thirty (30) day supply only by an advanced practice registered nurse certified in psychiatric-mental health nursing who is providing services in a health Facility as defined in KRS Chapter 216B or in a regional services program for mental health or individuals with an intellectual disability as defined in KRS Chapter 210.

(b) Prescriptions issued by advanced practice registered nurses for Schedule III controlled substances classified under KRS 218A.080 shall be limited to a thirty (30) day supply without any refill. Prescriptions issued by advanced practice registered nurses for Schedules IV and V controlled substances classified under KRS 218A.100 and 218A.120 shall be limited to the original prescription and refills not to exceed a six (6) month supply.

(c) Limitations for specific controlled substances which are identified as having the greatest potential for abuse or diversion, based on the best available scientific and law enforcement evidence, shall be established in an administrative regulation promulgated by the Kentucky Board of Nursing. The regulation shall be based on recommendations from the Controlled Substances Formulary Development Committee, which is hereby created. The committee shall be composed of two (2) advanced practice registered nurses appointed by the Kentucky Board of Nursing, one (1) of whom shall be designated as a committee co-chair; two (2) physicians appointed by the Kentucky Board of Medical Licensure, one (1) of whom shall be designated as a committee co-chair; and one (1) pharmacist appointed by the Kentucky Board of Pharmacy. The initial regulation shall be promulgated on or before August 15, 2006, and shall be reviewed at least annually thereafter by the committee. Nothing in this chapter shall be construed as requiring an advanced practice registered nurse designated by the board as a certified nurse anesthetist to obtain prescriptive authority pursuant to this chapter or any other provision of law in order to deliver anesthesia care. The performance of these additional acts shall be consistent with the certifying organization or agencies' scopes and standards of practice recognized by the board by administrative regulation;

(9) "Licensed practical nurse" means one who is licensed or holds the privilege under the provisions of this chapter to engage in licensed practical nursing practice;

(10) "Licensed practical nursing practice" means the performance of acts requiring knowledge and skill such as are taught or acquired in approved schools for practical nursing in:

(a) The observing and caring for the ill, injured, or infirm under the direction of a registered nurse, a licensed physician, or dentist;

(b) The giving of counsel and applying procedures to safeguard life and health, as defined and authorized by the board;

(c) The administration of medication or treatment as authorized by a physician, physician assistant, dentist, or advanced practice registered nurse and as further authorized or limited by the board which is consistent with the National Federation of Licensed Practical Nurses or with Standards of Practice established by nationally accepted organizations of licensed practical nurses;

(d) Teaching, supervising, and delegating except as limited by the board; and

- (e) The performance of other nursing acts which are authorized or limited by the board and which are consistent with the National Federation of Practical Nurses' Standards of Practice or with Standards of Practice established by nationally accepted organizations of licensed practical nurses;
- (11) "School of nursing" means a nursing education program preparing persons for licensure as a registered nurse or a practical nurse;
- (12) "Continuing education" means offerings beyond the basic nursing program that present specific content planned and evaluated to meet competency based behavioral objectives which develop new skills and upgrade knowledge;
- (13) "Nursing assistance" means the performance of delegated nursing acts by unlicensed nursing personnel for compensation under supervision of a nurse;
- (14) "Sexual assault nurse examiner" means a registered nurse who has completed the required education and clinical experience and maintains a current credential from the board as provided under KRS 314.142 to conduct forensic examinations of victims of sexual offenses under the medical protocol issued by the Justice and Public Safety Cabinet in consultation with the Sexual Assault Response Team Advisory Committee pursuant to KRS 216B.400(4);
- (15) "Competency" means the application of knowledge and skills in the utilization of critical thinking, effective communication, interventions, and caring behaviors consistent with the nurse's practice role within the context of the public's health, safety, and welfare;
- (16) "Credential" means a current license, registration, certificate, or other similar authorization that is issued by the board;
- (17) "Dispense" means:
 - (a) To receive and distribute noncontrolled legend drug samples from pharmaceutical manufacturers to patients at no charge to the patient or any other party; or
 - (b) To distribute noncontrolled legend drugs from a local, district, and independent health department, subject to the direction of the appropriate governing board of the individual health department;
- (18) "Dialysis care" means a process by which dissolved substances are removed from a patient's body by diffusion, osmosis, and convection from one (1) fluid compartment to another across a semipermeable membrane;
- (19) "Dialysis technician" means a person who is not a nurse, a physician assistant, or a physician and who provides dialysis care in a licensed renal dialysis facility under the direct, on-site supervision of a registered nurse or a physician;
- (20) "Population focus" means the section of the population within which the advanced practice registered nurse has targeted to practice. The categories of population foci are:
 - (a) Family or individual across the lifespan;
 - (b) Adult health and gerontology;
 - (c) Neonatology;
 - (d) Pediatrics;
 - (e) Women's health and gender-related health; and
 - (f) Psychiatric mental health; and
- (21) "Conviction" means but is not limited to:
 - (a) An unvacated adjudication of guilt;
 - (b) Pleading no contest or nolo contendere or entering an Alford plea; or
 - (c) Entering a guilty plea pursuant to a pretrial diversion order;

Regardless of whether the penalty is rebated, suspended, or probated.

Effective: July 12, 2012

History: Amended 2012 Ky. Acts ch. 146, sec. 112, effective July 12, 2012. -- Amended 2011 Ky. Acts ch. 35, sec. 1, effective June 8, 2011. -- Amended 2010 Ky. Acts ch.85, sec.52, effective July 15, 2010; and ch.101, sec.2, effective July 15, 2010. -- Amended 2007 Ky. Acts ch.85, sec.296, effective June 26, 2007. -- Amended 2006 Ky. Acts ch.86, sec.2, effective June 1, 2007; and ch.5, sec.1, effective July 12, 2006. -- Amended 2004 Ky. Acts ch.55, sec.1, effective July 13, 2004. -- Amended 2002 Ky. Acts ch.20, sec. 2 effective July 15, 2002; and ch.80, sec.8, effective July 15, 2002. -- Amended 2001 Ky. Acts ch.144, sec.1, effective June 21, 2001. -- Amended 2000 Ky. Acts ch.142, sec.7, effective July 14, 2000; and ch.391, sec.6, effective July 14, 2000. -- Amended 1998 Ky. Acts ch.228, sec.5, effective July 15, 1998. -- Amended 1996 Ky. Acts ch.260, sec.3, effective July 15, 1996; and ch.342, sec.1, effective July 15, 1996. -- Amended 1994 Ky. Acts ch.367, sec.1, effective July 15, 1994. Amended 1992 Ky. Acts ch.128, sec.1, effective July 14, 1992. -- Amended 1982 Ky. Acts ch.408, sec.1, effective July 15, 1982. --Amended 1978 Ky. Acts ch.168, sec.1, effective June 17, 1978. -- Created 1966 Ky. Acts ch.20, sec.2.

Kentucky Regulations

702 KAR 1:160. School health services.

RELATES TO: KRS 156.160(1)(g), (h), (i), 156.501, 156.502, 161.145, 214.034, 214.036, 29 C.F.R. 1910.1030 STATUTORY AUTHORITY: KRS 156.070, 156.160(1)

NECESSITY, FUNCTION, AND CONFORMITY: KRS 156.160(1)(g) requires the Kentucky Board of Education to promulgate administrative regulations governing medical inspection, physical and health education and recreation, and other administrative regulations deemed necessary or advisable for the protection of the physical welfare and safety of the public school children. KRS 156.160(1)(h) and (i) require the board to promulgate an administrative regulation governing a required vision examination and a dental screening or examination. This administrative regulation establishes standards and criteria for preventative health care examinations at the local school district level.

Section 1. School Employee Medical Examinations. (1) Except as provided in subsection (2) of this section, a local board of education shall require a medical examination of each certified or classified employee, including each substitute teacher. The medical examination shall:

- (a) Be conducted prior to initial employment; and
- (b) Include a tuberculosis (TB) risk assessment.

1. If the individual is identified by that assessment as being at high risk for TB, the individual shall be required to undergo the administration of a tuberculin skin test (TST).

2. The TB risk assessment shall be performed and reported by a physician, an advanced practice registered nurse, a physician's assistant, or a registered nurse.

(2) The medical examination requirement shall not apply to school bus drivers who are covered by 702 KAR 5:080.

(3) A local board of education may require by policy that a school employee physical examination be conducted no earlier than a ninety (90) day period prior to initial employment.

- (4) A medical examination shall be reported on the form Medical Examination of School Employees, KDESHS001.
- (5) A person who tests positive for TB shall be required to comply with the directives of the local board of health and the Kentucky Department for Public Health for further evaluation and treatment of the TB infection.
- (6)(a) Following the required medical examination for initial employment and any subsequent examinations as may be required for positive tuberculin reactors, a school district employee other than a bus driver shall submit to the local school superintendent the completed Medical Examination of School Employees from required by subsection (4) of this section.
- (b) The medical examination shall be performed and signed for by a physician, physician's assistant, or an advanced practice registered nurse.
- (7) Documentation of a TST and chest x-ray, if performed, shall include:
- (a) The date given;
 - (b) Type of test;
 - (c) Millimeters of induration;
 - (d) Date read and by whom; and
 - (e) Date x-ray taken and results as related to TB status.
- (8)(a)1. A local board of education shall require all school personnel exhibiting symptoms of chronic respiratory disease to undergo a TB risk assessment and examinations as indicated.
2. The evaluation and any recommended treatment for TB infection shall be based upon the directives of the local board of health and the Kentucky Department for Public Health.
- (b) An employee exposed to infectious TB shall be tested and, if necessary, treated for TB infection according to the directives of the local board of health.
- (c) In a county with an incidence of cases of active TB that is equal to or greater than the national average as established by the Department for Public Health, Division of Epidemiology, Tuberculosis Control Program, the local board of health may, with the approval of the Kentucky Department for Public Health, require more extensive testing of school district employees for TB.
- Section 2. Preventative Health Care Examinations. (1)(a) A local board of education shall require a preventative health care examination.
- (b) A second examination shall be required within one (1) year prior to entry into the sixth grade.
- (c) A third examination may be required by policy of the local board of education within one (1) year prior to entry into the ninth grade.
- (2) An out-of-state transfer student shall be required to submit documentation of a preventative health care examination.
- (3) A local school board may extend the deadline by which to obtain a preventative health care examination, not to exceed two (2) months.
- (4) A preventative health care examination shall be performed and signed for by a physician, an advanced practice registered nurse, a physician's assistant, or by a health care provider in the early periodic screening diagnosis and treatment programs.
- (5) A preventative health care examination shall be reported on the Preventative Health Care Examination Form, KDESHS002, and shall include:
- (a) A medical history;
 - (b) An assessment of growth and development and general appearance;

- (c) A physical assessment including hearing and vision screening; and
 - (d) Recommendations to the school regarding health problems that may require special attention in classroom or physical education activities.
 - (6)(a) A vision examination shall be reported on the form, Kentucky Eye Examination Form for School Entry, KDESHS004.
 - (b) A dental screening or examination shall be reported on the form, Kentucky Dental Screening/Examination Form for School Entry, KDESHS005.
 - (7) A record of immunization shall be submitted on an Immunization Certificate, EPID-230.
 - (8) A local school district shall establish a plan for implementation and compliance required for the sixth grade preventative health care examination.
 - (9) A current Immunization Certificate, EPID-230, shall be on file within two (2) weeks of the child's enrollment in school.
 - (10)(a) A board of education shall adopt a program of continuous health supervision for all school enrollees.
 - (b) Supervision shall include scheduled, appropriate screening tests for vision and hearing.
 - (11) A school shall have emergency care procedures, which shall include:
 - (a) First aid facilities, including provisions for designated areas for the child to recline;
 - (b) A requirement that whenever children are present during school hours, there shall be at least one (1) adult present in the school who is certified in a standard first aid course which includes CPR for infants and children;
 - (c) A number at which parents can be reached; and
 - (d) The name of a family physician.
 - (12) A local board of education shall require immunizations as required by KRS 214.034.
- Section 3. Cumulative Health Records. (1) A school shall initiate a cumulative health record for each pupil entering its school.
- (a) The record shall be maintained throughout the pupil's attendance.
 - (b) The record shall be uniform and shall be on the form Pupil's Cumulative Health Record, KDESHS006, or the record shall be maintained electronically in the student information system.
 - (c) The record shall include screening tests related to growth and development, vision, hearing, and dental, and findings and recommendations of a physician and a dentist.
 - (d) A follow-up by the proper health or school authorities shall be made on each abnormality noted, and the result shall be recorded.
- (2) A local school authority shall report all known or suspected cases of communicable disease immediately to the local health department.
- Section 4. Physical Environment. (1) A board of education shall provide and maintain a physical environment that is conducive to the health and safety of school children in each school under its jurisdiction.
- (2) A local board of education shall comply with current laws and administrative regulations applicable to all public buildings pertinent to health, sanitation, and safety.
 - (3) A local board of education shall establish and maintain:
 - (a) An adequate supply of water of safe, potable, sanitary quality;
 - (b) A state-approved sanitary disposal of sewage, other water carried waste, and solid waste;
 - (c) Adequate toilet and lavatory facilities, including soap or detergent as well as towels or other methods for drying hands, and other sanitary fixtures;

- (d) Adequate heating, lighting, and ventilation in all school buildings;
- (e) Adequate facilities and equipment for cafeterias and lunchrooms;
- (f) Supervision of general sanitation and safety of the school buildings, grounds, and playground equipment;
- (g) Beginning with the 2010-2011 school year, proof that all unlicensed school personnel who have accepted delegation to perform medication administration in school have completed a training course provided by the Kentucky Department of Education. This course shall be developed in consultation with the Kentucky Board of Nursing to ensure compliance with 201 KAR 20:400;
- (h) Adequate control of air pollutants; and
- (i) Universal precautions guidelines compatible with Occupational Safety and Health Administration requirements established in 803 KAR 2:320 and 29 C.F.R. 1910.1030.

Section 5. A superintendent shall designate a person to serve as school health coordinator for the district. (1) The person designated shall meet the minimum qualifications required of this position as determined by the Educational Professional Standards Board in 16 KAR 4:010 or by the Kentucky Department of Education in the Local District Classification Plan for Class Code: 7271, as indicated in the document Setting Up Employee Classification Codes.

(2) Class Title: School Health Coordinator for the district. The school health coordinator shall work in cooperation with all school personnel, the local board of education, the State Department of Education, the local health department, family resource and youth services centers, and parents in planning, promoting, and implementing a school health services program.

Section 6. Incorporation by Reference. (1) The following material is incorporated by reference:

- (a) "Medical Examination of School Employees", KDESHS001, February 2012;
- (b) "Preventative Health Care Examination Form", KDESHS002, February 2012;
- (c) "Pupil's Cumulative Health Record", KDESHS006, March 2012;
- (d) "Setting Up Employee Classification Codes", March 2012;
- (e) "Kentucky Eye Examination Form for School Entry", KDESHS004, March 2012;
- (f) "Immunization Certificate", EPID-230, August 2010; and
- (g) "Kentucky Dental Screening/Examination For School Entry", KDESHS005, March 2012.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Division of District Support, Department of Education, 500 Mero Street, Frankfort, Kentucky 40601, Monday through Friday, 8 a.m. to 4:30 p.m. (SBE 48.011; 1 Ky.R. 81; eff. 11-13-1974; Am. 5 Ky.R. 1086; eff. 8-1-1979; 7 Ky.R. 28; eff. 9-3-1980; 8 Ky.R. 1162; 9 Ky.R. 114; eff. 6-22-1982; 1315; eff. 7-6-1983; 17 Ky.R. 2245; eff. 3-13-1991; 18 Ky.R. 1202; 2256; eff. 1-10-1992; 19 Ky.R. 2494; 20 Ky.R. 75; 509; eff. 8-5-1993; 26 Ky.R. 1449; eff. 3-10-2000; 27 Ky.R. 1332; eff. 1-15-2001; 34 Ky.R. 628; 1421; eff. 1-4-2008; 36 Ky.R. 653; 1218; eff. 1-4-2010; Recodified from 704 KAR 4:020, 1-13-2012; 38 Ky.R. 1799; 39 Ky.R. 28; eff. 7-13-2012.)

201 KAR 20:400. Delegation of nursing tasks.

RELATES TO: KRS 311A.170, 314.011, 314.021(2), 314.091(1) STATUTORY
 AUTHORITY: KRS 314.131(1)

NECESSITY, FUNCTION, AND CONFORMITY: KRS 314.131(1) authorizes the board to promulgate administrative regulations necessary to implement KRS Chapter 314. KRS

314.091(1)(d) prohibits a person from negligently or willfully acting in a manner inconsistent with the practice of nursing. This administrative regulation establishes requirements that govern the delegation of a nursing task in a safe, effective manner so as to safeguard the health and welfare of the citizens of the Commonwealth.

Section 1. Definitions. (1) "Board" is defined in KRS 314.011(1).

(2) "Client" means a patient, resident or consumer of nursing care.

(3) "Competence" means performing an act in a safe, effective manner.

(4) "Delegatee" means a person to whom a task is delegated.

(5) "Delegator" means the nurse delegating a task to another person.

(6) "Nurse" is defined in KRS 314.011(3).

(7) "Nursing task" means an act included in the definition of registered nursing practice, advanced practice registered nursing, or licensed practical nursing practice pursuant to KRS 314.011(6), (8), or (10).

(8) "Paramedic" is defined in KRS 311A.010.

(9) "Supervision" means the provision of guidance by a qualified nurse for the accomplishment of a nursing task with periodic observation and evaluation of the performance of the task including validation that the nursing task has been performed according to established standards of practice.

(10) "Unlicensed person" means an individual, other than a nurse, the client, or the client's family, legal guardian, or delegatee, who functions in an assistant or subordinate role to the nurse.

Section 2. Nurse's Responsibility in Delegation.

(1) A registered nurse or a licensed practical nurse may delegate a task to an unlicensed person in accordance with this section and Sections 3 and 4 of this administrative regulation.

(2) A registered nurse may delegate a task to a paramedic employed in a hospital emergency department in accordance with KRS 311A.170 and Sections 3 and 4 of this administrative regulation.

(3) Prior to delegating a nursing task, the nurse shall determine the nursing care needs of the client. The nurse shall retain responsibility and accountability for the nursing care of the client, including nursing assessment, planning, evaluation and assuring documentation.

(4) The nurse, prior to delegation to an unlicensed person, shall have either instructed the unlicensed person in the delegated task or determined that the unlicensed person is competent to perform the nursing task.

(5) A nursing task shall be delegated directly or indirectly. An indirect delegation shall not alter the responsibility of the nurse for appropriately assigning and supervising an unlicensed person.

(6) A nurse who delegates a nursing task in violation of this administrative regulation or participates in the utilization of an unlicensed person in violation of this administrative regulation shall be considered acting in a manner inconsistent with the practice of nursing.

Section 3. Criteria for Delegation. The delegation of a nursing task shall meet the following criteria:

(1) The delegated nursing task shall be a task that a reasonable and prudent nurse would find is within the scope of sound nursing judgment and practice to delegate.

(2) The delegated nursing task shall be a task that, in the opinion of the delegating nurse, can be competently and safely performed by the delegatee without compromising the client's welfare.

(3) The nursing task shall not require the delegatee to exercise independent nursing judgment or intervention.

(4) The delegator shall be responsible for assuring that the delegated task is performed in a competent manner by the delegatee.

Section 4. Supervision. (1) The nurse shall provide supervision of a delegated nursing task.

(2) The degree of supervision required shall be determined by the delegator after an evaluation of appropriate factors involved including the following:

(a) The stability and acuity of the client's condition;

(b) The training and competency of the delegatee;

(c) The complexity of the nursing task being delegated; and

(d) The proximity and availability of the delegator to the delegatee when the nursing task is performed. (19 Ky.R. 1242; eff. 1-27-93; Am. 25 Ky.R. 2189; 2546; eff. 5-19-99; 29 Ky.R. 2947; eff. 8-13-03; TAm eff. 7-15-2010.)

Appendix D

Skills Checklists

BLOOD GLUCOSE/BLOOD KETONE MONITORING SKILLS CHECKLIST

Unlicensed Assistive School Personnel (UAP): _____

RN School Nurse/RN Instructor: _____

	Training Date/Initials	Return Demonstrations			
		Date/Initial*	Date/Initial*	Date/Initial*	Date/Initial*
A. States name & purpose of procedure.					
B. Preparation:					
1. Reviews Standard Precautions.					
2. Identifies site where procedure is done.					
C. Identifies supplies:					
1. Meter					
2. Test strips or cartridges, etc.					
3. Lancing device					
4. Gloves					
D. Procedure:					
1. Washes hands.					
2. Assembles supplies.					
3. Puts gloves on.					
4. Prepares lancing device.					
5. Turns meter on, checks codes (if applicable).					
6. Places strip into meter or prepares otherwise.					
7. Cleans selected area, allows to dry.					
8. Lances area.					
9. Places blood onto test strip.					
10. Places cotton ball or tissue over lanced area.					
11. Reads result.					
12. Turns meter off, removes strip.					
13. Disposes of strip, gloves and other supplies appropriately.					

14. Cleans up testing area.					
15. Washes hands.					
16. Records results.					

* Place appropriate code: (+) = task performed well; (-) = task not performed well
Adapted with permission from National Association of School Nurses, 2011

RN School Nurse/Registered Nurse Signature/Initials:

Date:

Unlicensed Assistive School Personnel Signature/Initials:

Date:

URINE KETONE MONITORING SKILLS CHECKLIST

Unlicensed Assistive School Personnel (UAP): _____

RN School Nurse/RN Instructor: _____

	Training Date/Initials	Return Demonstrations			
		Date/Initial*	Date/Initial*	Date/Initial*	Date/Initial*
A. States name & purpose of procedure.					
B. Preparation:					
1. Reviews Standard Precautions.					
2. Identifies where procedure is done.					
C. Identifies supplies:					
1. Gloves					
2. Testing strips					
3. Cup of urine					
4. Protected testing area (waterproof disposable pad)					
5. Watch or clock with second hand					
D. Procedure:					
1. Washes hands.					
2. Assembles supplies.					
3. Puts on gloves.					
4. Places cup of urine on protected area (waterproof disposable pad).					
5. Dips ketone testing strip in urine taps off excess.					
6. Times appropriately.					
7. Compares strip to bottle, accurately reads results.					
8. Disposes of all supplies appropriately.					
9. Removes gloves and disposes.					
10. Washes hands.					
11. Records results.					

* Place appropriate code: (+) = task performed well; (-) = task not performed well
Adapted with permission from National Association of School Nurses, 2011

RN School Nurse/Registered Nurse Signature/Initials:

Date:

Unlicensed Assistive School Personnel Signature/Initials:

Date:

CALCULATING INSULIN BOLUS DOSE BASED ON CARBOHYDRATE INTAKE

Unlicensed Assistive School Personnel Signature/Initials & Date (UAP): _____

RN School Nurse/RN Instructor Signature/Initials & Date: _____

	Training Date/Initials	Return Demonstrations			
		Date/Initial*	Date/Initial*	Date/Initial*	Date/Initial*
A. States name & purpose of procedure.					
B. Preparation:					
1. Reviews student's DMMP for student specific instructions.					
2. Reviews standard precautions.					
3. Identifies student's ability to participate in calculations.					
C. Identifies supplies:					
1. Carbohydrate Table/ Nutrition Label (15 gm = 1 carb serving)					
2. Pencil/pen paper					
3. Calculator					
D. Procedure:					
1. Describes time when bolus insulin usually given.					
2. Verifies the student's insulin to carbohydrate ratio order.					
3. Correctly identifies the number of grams/servings of carbohydrate intake.					
4. Demonstrates correct calculation of bolus insulin dose for carbs.					
5. Verifies the student's correction factor insulin scale order.					
6. Demonstrates correct calculation of correction factor insulin dose.					
7. Correctly demonstrates the calculation of the total insulin dose.					

Adapted from: *Nursing Guidelines for the Delegation of Care for Students with Diabetes in Florida Schools*, 2003. P.65-68.

INSULIN ADMINISTRATION: SYRINGE SKILLS CHECKLIST

Unlicensed Assistive School Personnel (UAP): _____

RN School Nurse/RN Instructor: _____

	Training Date/Initial	Return Demonstrations			
		Date/Initial*	Date/Initial*	Date/Initial*	Date/Initial*
A. States name & purpose of procedure.					
B. Preparation:					
1. Reviews Standard Precautions.					
2. Identifies where procedure is done.					
3. Identifies expiration date of insulin					
C. Identifies supplies:					
1. Gloves					
2. Insulin bottle					
3. Syringe					
4. Alcohol wipe and cotton ball					
5. Sharps container					
D. Procedure:					
1. Washes hands.					
2. Gathers supplies (insulin bottle, syringe, alcohol wipe, cotton ball).					
3. Puts gloves on.					
4. Wipes top of bottle with alcohol wipe and lets dry for a few seconds.					
5. Pulls the plunger down to let ___ units of air into the syringe.					
6. Pushes the needle through the center of the rubber top of the insulin bottle.					

* Place appropriate code: (+) = task performed well; (-) = task not performed well
Adapted with permission from National Association of School Nurses, 2011

INSULIN ADMINISTRATION: SYRINGE SKILLS CHECKLIST

	Training Date/Initial	Return Demonstrations			
		Date/Initial*	Date/Initial*	Date/Initial*	Date/Initial*
7. Pushes the air into the bottle and leaves the needle in the bottle.					
8. Turns the insulin bottle and syringe upside down					
9. Pulls the plunger down slowly to the correct number of units.					
10. Looks for air bubbles, taps the syringe to raise air bubbles to the top. Pushes the air bubbles back in the bottle and repeats Step 8.					
11. Checks to make sure _____ units of insulin are in the syringe and removes the syringe from the bottle.					
12. Assists the student in choosing the injection site.					
a. Pinches skin and inserts insulin syringe and needle.					
b. Pushes plunger in to deliver insulin and counts to five with skin pinched and needle in place.					
c. Let go of pinched skin but keeps needle in place in skin and counts to five.					
d. Removes insulin needle from skin. Gentle pressure with cotton ball as needed.					
14. Disposes of syringe in sharps container. Does not recap syringe.					

* Place appropriate code: (+) = task performed well; (-) = task not performed well
Adapted with permission from National Association of School Nurses, 2011

 RN School Nurse/Registered Nurse Signature/Initials:

 Date:

 Unlicensed Assistive School Personnel Signature/Initials:

 Date:

INSULIN ADMINISTRATION: PEN DEVICE SKILLS CHECKLIST

Unlicensed Assistive School Personnel (UAP): _____

RN School Nurse/RN Instructor: _____

	Training Date/Initial	Return Demonstrations			
		Date/Initial*	Date/Initial*	Date/Initial*	Date/Initial*
A. States name & purpose of procedure.					
B. Preparation:					
1. Reviews Standard Precautions.					
2. Identifies where procedure is done.					
3. Identifies expiration date of insulin					
C. Identifies supplies:					
1. Gloves					
2. Insulin pen					
3. Insulin cartridge					
4. Pen needle					
5. Alcohol wipe and cotton Ball					
D. Procedure:					
1. Washes hands.					
2. Gathers supplies (insulin pen or cartridge, pen needle, alcohol wipe, cotton ball).					
3. Puts gloves on.					
4. Load insulin cartridge, if needed and wipe insulin pen top with alcohol wipe.					
5. Screws the needle onto the end of the insulin pen. Removes caps and sets outer cap on flat surface.					
6. Primes the needle by dialing the pen to 2 units.					
7. Pushes the plunger until a small drop or stream of insulin is seen, and repeats as needed.					

* Place appropriate code: (+) = task performed well; (-) = task not performed well
Adapted with permission from National Association of School Nurses, 2011

INSULIN ADMINISTRATION: PEN DEVICE SKILLS CHECKLIST

Unlicensed Assistive School Personnel (UAP): _____

RN School Nurse/RN Instructor: _____

	Training Date/Initial	Return Demonstrations			
		Date/Initial*	Date/Initial*	Date/Initial*	Date/Initial*
8. Turns the dose knob to the dose ordered.					
9. Assists the student in choosing the injection site (arm,abdomen,thigh)					
e. Pinches skin and inserts insulin pen needle.					
f. Pushes injection button down completely to deliver insulin and counts to five with skin pinched and needle in place					
g. Let go of pinched skin but keeps needle in place in skin and counts to five.					
h. Removes insulin needle from skin. Dabs with cotton ball if needed.					
10. Carefully replaces the outer cap of the needle without touching the outer cap, unscrews the needle and disposes of properly in a sharps container.					

* Place appropriate code: (+) = task performed well; (-) = task not performed well
Adapted with permission from National Association of School Nurses, 2011

 RN School Nurse/Registered Nurse Signature/Initials:

 Date:

 Unlicensed Assistive School Personnel Signature/Initials:

 Date:

GLUCAGON INJECTION SKILLS CHECKLIST

Unlicensed Assistive School Personnel (UAP): _____

RN School Nurse/RN Instructor: _____

	Training Date/Initial	Return Demonstrations			
		Date/Initial*	Date/Initial*	Date/Initial*	Date/Initial*
A. STATES NAME & PURPOSE OF PROCEDURE					
B. PREPARATION:					
1. Reviews standard precautions					
2. Identifies procedure is done if student experiencing severe hypoglycemia					
3. Identifies expiration date of glucagon					
4. Identifies accompanying steps:					
<ul style="list-style-type: none"> • Send someone to call EMS/911, notify school nurse & parent/guardian 					
<ul style="list-style-type: none"> • Maintain open airway 					
<ul style="list-style-type: none"> • Give glucose gel in I pouch of cheek or lower mouth between lip and gum (if ordered) 					
<ul style="list-style-type: none"> • Give glucose source when student is awake and able to swallow 					
<ul style="list-style-type: none"> • Remain with student until EMS arrive 					
C. IDENTIFIES SUPPLIES:					
1. Glucagon kit					
2. Alcohol wipe & cotton ball					
3. Sharps container					
4. Gloves					
D. PROCEDURE					
1. Washes hands					
2. Gathers supplies (glucagon kit, alcohol wipe, cotton ball, gloves)					
3. Puts on gloves					
4. Removes flip-off seal from vial of glucagon powder, wipe with alcohol wipe					
5. Removes needle cover from syringe.					

* Place appropriate code: (+) = task performed well; (-) = task not performed well
 Adapted with permission from National Association of School Nurses, 2011

GLUCAGON INJECTION SKILLS CHECKLIST

Unlicensed Assistive School Personnel (UAP): _____

RN School Nurse/RN Instructor: _____

	Training Date/Initial	Return Demonstrations			
		Date/Initial*	Date/Initial*	Date/Initial*	Date/Initial*
6. Injects entire contents of syringe into vial of glucagon powder (held upright).					
7. Swirls vial <u>gently</u> until dissolved/clear.					
8. Holds vial upside down, and withdraw all solution from the vial into syringe.					
9. Withdraws needle from vial, hold syringe upright, and remove air/bubbles from syringe.					
10. Exposes injection site (upper, outer area of thigh, arm).					
11. Holds syringe safely; use other hand to clean injection site with alcohol wipe.					
12. For subcutaneous injection only: "Pinches up skin/tissue (still holding alcohol wipe).					
13. For subcutaneous and intramuscular injection: Inserts needle straight into tissue of injection site and inject glucagon.					
14. Withdraws needle and press gently with alcohol wipe or cotton ball at injection site.					
15. Turns child on side.					
16. Puts used syringe and vial in sharps container.					
14. Documents per school policy.					

* Place appropriate code: (+) = task performed well; (-) = task not performed well
Adapted with permission from National Association of School Nurses, 2011

 RN School Nurse/Registered Nurse Signature/Initials:

 Date:

 Unlicensed Assistive School Personnel Signature/Initials:

 Date:

Appendix E

DIABETES SUPPLIES FOR SCHOOLS

According to the NDEP (2010, p. 94), parents are responsible for providing the school all the diabetes supplies and equipment needed in the DMMP. The following is a list of typical supplies:

Insulin:

- Insulin and insulin administration supplies
 - Insulin bottle and/or pen with cartridges
 - Insulin syringes/pen needles
 - Alcohol wipes/antiseptic wipes (optional)
- Pump supplies
 - Including equipment needed to change reservoir and infusion set, manufacturer's operating instructions, and extra batteries

Blood Glucose Monitoring Supplies:

- Blood glucose meter and manufacturer's instructionsⁱ
- Test strips (with code information, if needed)
- Finger-sticking device
- Lancets
- Cotton balls
- Logbook or documentation form to record blood sugar and amounts of insulin
- Protective covering (e.g., plastic wrap) as needed

Food:

- Snack foods
- Choices for Physical activity - 15 grams carbohydrate:
 - 1 – 4ounce juice box
 - 1 cup Gatorade
 - 1 sliced orange or apple
 - 1 small box raisins
 - 6 saltines
 - 1 cup light yogurt
 - ¾ cup dry cereal
- Choices for Physical activity - 30 grams carbohydrate:
 - 1 cereal bar
 - 1 – 8 ounce juice box
 - 2 slices bread
 - 1 small bagel

- Choices for Physical activity - 45-50 grams carbohydrate plus protein
 - 1 sports nutrition bar
 - 1 Package (6) cheese or peanut butter sandwich crackers plus 4 oz. juice
- Protein Sources:
 - Peanut butter
 - Sliced or String Cheese
 - Lunch Meat
 - Egg
 - Peanuts, Walnuts, or Almonds

Low blood sugar (hypoglycemia) supplies:

- Quick-acting glucose products
 - 4 glucose tablets
 - 15 grams glucose gel
 - 4- 6 oz. regular soda
 - 4 oz. juice (unsweetened)
 - 3 tsp. sugar in water
 - 3 tsp. jelly, syrup, or honey
- Glucagon emergency kit

Appendix F
Blood Glucose Management Algorithms
LOW BLOOD GLUCOSE (HYPOGLYCEMIA) EMERGENCY CARE PLAN

Student Name: _____ Date: _____
 Grade/Teacher: _____ School Year/Date & School: _____
 Parent/Guardian Name: _____ Phone: () _____
 Emergency Contact: _____ Phone: () _____
 Health Care Provider: _____ Phone: () _____

CAUSES
 Too much insulin
 Missed food
 Delayed food
 Too much exercise
 Unscheduled exercise

ONSET
 Sudden

PICTURE

Never send a child with suspected low blood sugar anywhere alone.

SYMPTOMS
 Low blood sugar
 Less than 70 mg/dl

MILD
 Hunger Dizziness
 Irritable Shakiness
 Weak Anxious
 Pallor Headache
 Crying
 Sweating
 Unable to concentrate
 Other

MODERATE
 Sleepiness
 Behavior Change
 Confusion
 Slurred speech
 Poor coordination
 Other _____

SEVERE
 Unable to swallow
 Combative
 Unconscious
 Seizures

ACTION
 • Treat for low blood sugar on the spot
 • Check blood sugar if possible
 • Notify School Nurse
 Name: _____
 Contact Number: _____

MILD

- Provide fast-acting sugar source:
 - 3-4 glucose tabs
 - 4 oz. juice
 - 6 oz. regular soda
 - 3 tsp. glucose gel
- Wait 10-15 minutes
- Retest blood sugar
- If blood sugar is less than 70 mg/dl, repeat sugar source
- Provide snack if no meal for 1 hour
- If blood sugar within target range, student may return to class if feeling better
- Communicate school nurse
- Communicate parent/guardian

MODERATE

- Provide fast-acting sugar source:
 - 3-4 glucose tabs
 - 4 oz. juice
 - 6 oz. regular soda
 - 3 tsp. glucose gel
- Wait 10-15 minutes
- Retest blood sugar
- If blood sugar is less than 70 mg/dl, repeat sugar source
- Provide snack if no meal for 1 hr.
- If blood sugar within target range, student may return to class if feeling better
- Notify school nurse
- Notify parent/guardian

SEVERE

- Call 911**
- Don't give anything by mouth
- Give Glucagon, if ordered
- Position on side
- Stay with student
- Notify school nurse
- Notify parent/guardian

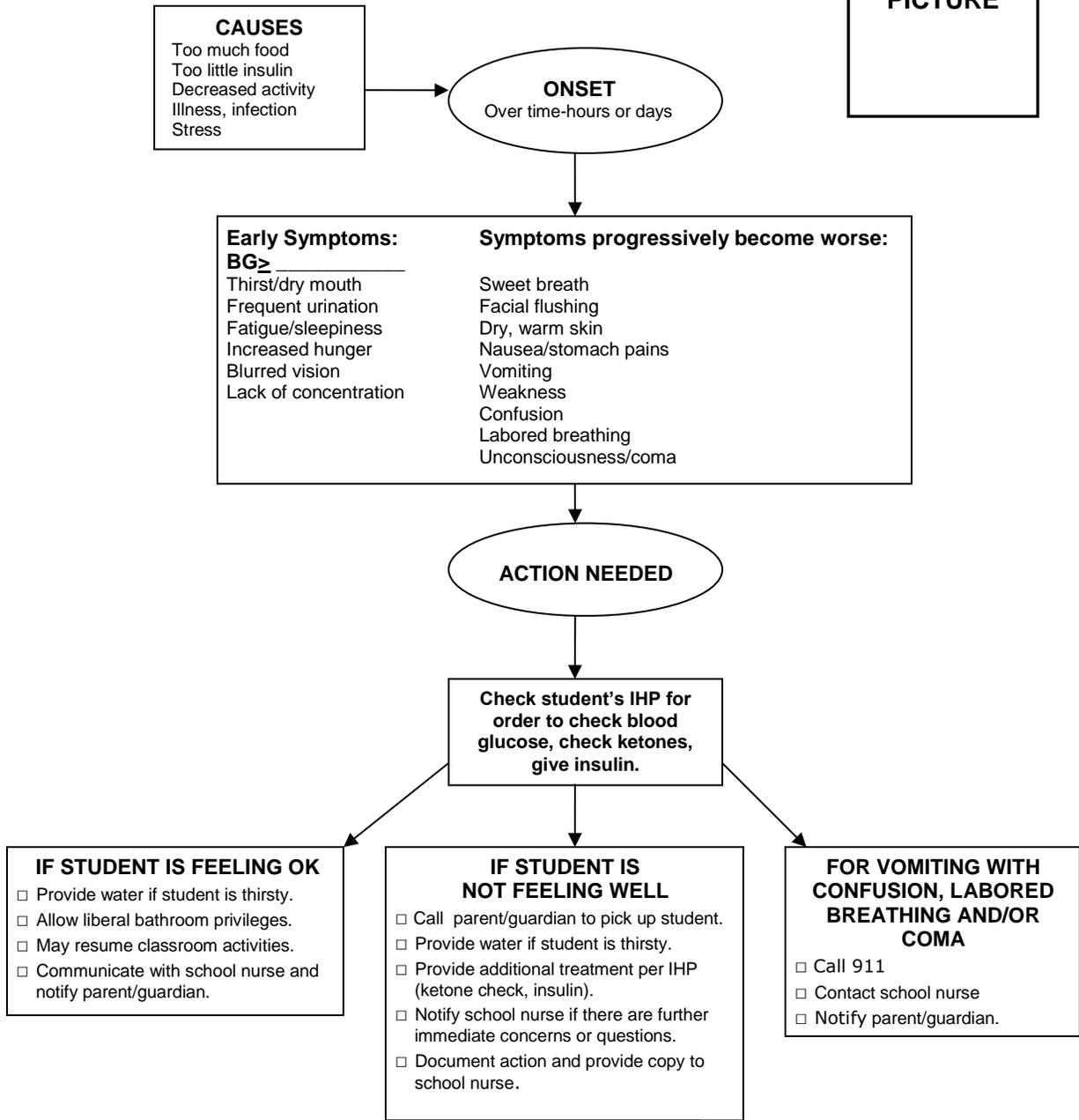
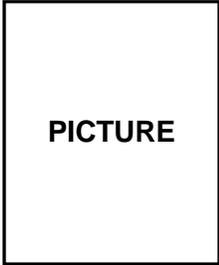
 RN School Nurse/RN Signature

 Date

Adapted with permission from National Association of School Nurses, 2011

HIGH BLOOD GLUCOSE (HYPERGLYCEMIA) MANAGEMENT ALGORITHM

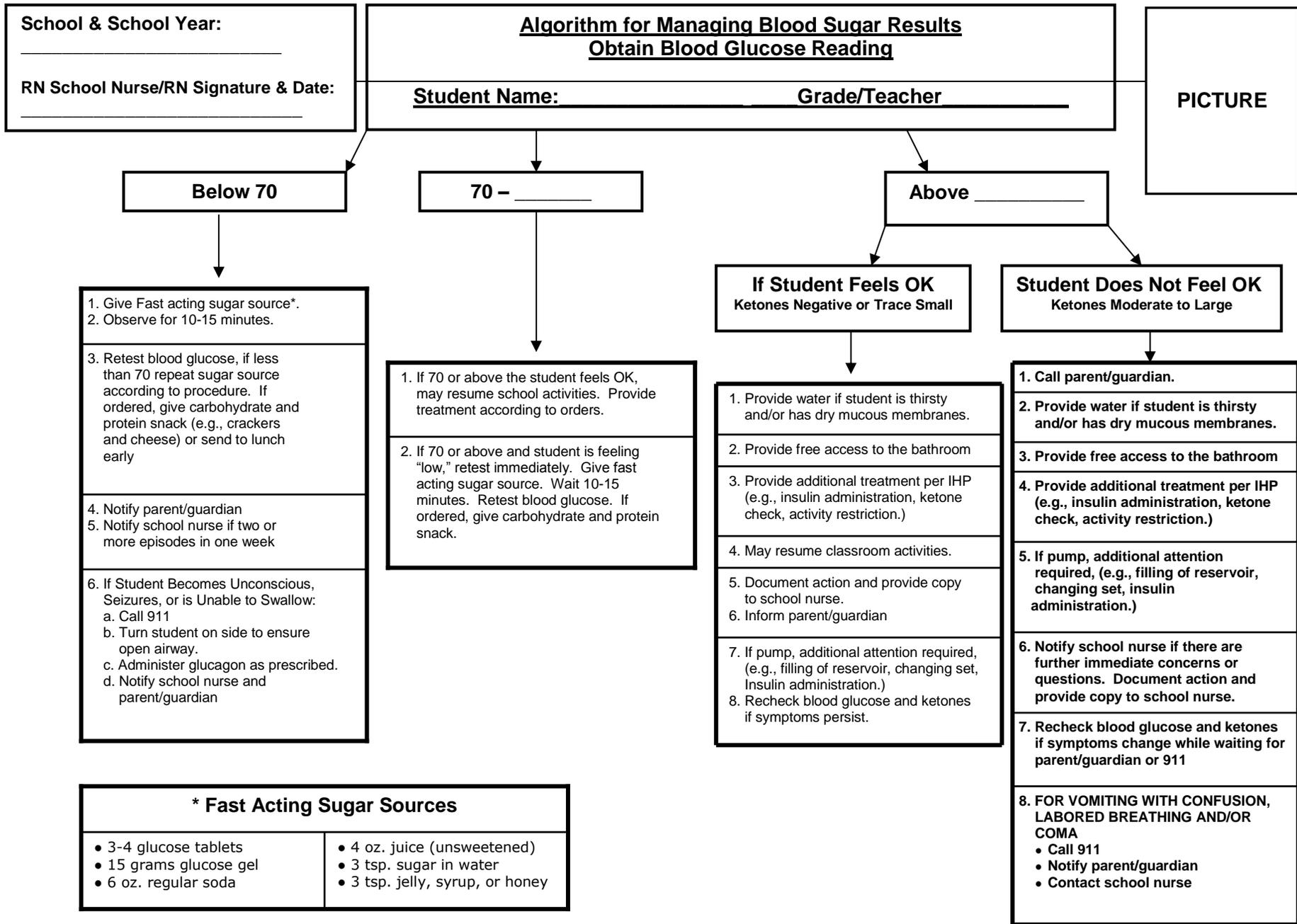
Student Name: _____
 Grade/Teacher: _____
 School Year/Date & School: _____



RN Signature: _____

Date: _____

Adapted with permission from National Association of School Nurses, 2011



Adapted with permission from National Association of School Nurses, 2011

Competency Examination for Unlicensed School Personnel to Administer Insulin in the School Setting

Name _____ Date _____

Instructions: check only one answer for each question. Thirty-six (36) correct questions provides 85 % score.

1. Type 1 Diabetes is:

- a) the inability of the body to produce adequate insulin
- b) a contagious disease
- c) is caused by eating too much sugar
- d) causes obesity

2. Hypoglycemia is another term used for low blood glucose level.

- a) True
- b) False

3. Which phrase is true about Hypoglycemia:

- a) Is one of the most frequent complications of children with diabetes who receive insulin
- b) Is a condition that involves the heart
- c) Is a condition where there is swelling of the eyes, lips, or tongue
- d) Is a condition where there is itching and/or blisters in the throat of mouth

4. Potential causes for a low blood glucose level may include which of the following:

- a) Too much insulin
- b) Delay in receiving snack/meal
- c) Physical activity
- d) All of the above

5. When is Glucagon usually given to treat Hypoglycemia?

- a) When the student's blood sugar is more than 150 md/dl
- b) Before recess every afternoon
- c) When the student is unable to take liquid or food by mouth
- d) When the student is tired and sleepy

6. How is Glucagon administered?

- a) Under the tongue
- b) By mouth
- c) By injection
- d) Rectally

7. Students with diabetes must check their blood glucose:

- a) three times a day
- b) five times a day
- c) four times at school and four times at home
- d) as outlined in their diabetes medical management plan

8. Which of the following is not used to manage diabetes:

- a) following a recommended eating plan
- b) taking medication as prescribed
- c) limiting physical activity
- d) seeing a healthcare provider routinely

9. The goal of good diabetes management is to:

- a) be as healthy as possible
- b) avoid the complications associated with diabetes
- c) fully participate in all academic and extracurricular activities
- d) keep blood glucose levels within an acceptable range
- e) all of the above

10. Physical activity does not:

- a) control weight
- b) lower blood glucose levels
- c) increase insulin sensitivity
- d) decrease insulin sensitivity

11. Students with diabetes are required to have an individual health plan (IHP)/diabetes medical management plan.

True False

12. The Individual Health Plan/Diabetes Medical Management Plan does not include:

- a) a list of all the medicines the student is to take while at school for diabetes
- b) a schedule of when blood glucose is to be checked and when medicines are to be administered
- c) the time of recess during the day
- d) ranges of glucose values and steps to take when the values are out of range

13. Insulin may not be administered by using:

- a) tablets
- b) an insulin pump
- c) insulin pens
- d) insulin syringes

14. Students with diabetes should not eat foods with sugar in them.

True False

15. Students with diabetes may dispose of their blood testing equipment by any of these except:

- a) by taking lancets home, using safe needle disposal recommendations
- b) by taking lancets to the nurse's office, using safe needle disposal recommendations
- c) by adhering to the district policy related to safe needle disposal
- d) by throwing away in the regular trash in the first aid office

16. Symptoms of mild to moderate hypoglycemia (low blood glucose) may include all of these except:

- a) trembling
- b) passing out
- c) confusion
- d) inability to concentrate

17. The best way to determine mild to moderate hypoglycemia (low blood glucose) is determined by:

- a) checking the student's blood glucose
- b) looking at the child's skin color
- c) asking her/him how she/he feels
- d) watching for seizures

18. Which action is not associated with treatment of mild to moderate hypoglycemia (low blood glucose):

- a) eating a snack
- b) administering insulin
- c) following the IHP
- d) documenting the occurrence

19. Symptoms of severe hypoglycemia (low blood glucose) should be suspected if:

- a) the student collapses
- b) has a seizure
- c) the student is crying
- d) a and b
- e) b and c

20. Treating severe hypoglycemia (low blood glucose) should include:

- a) administering fast-acting glucose, if the student can swallow
- b) administering glucagon, if the student is unconscious
- c) administering insulin per the diabetes medical management plan
- d) a and b

21. When engaging in physical activity, a student with diabetes might need to do all these activities except:

- a) monitor blood glucose levels before, during and after the scheduled physical activity
- b) skip lunch and plan to eat extra after the activity
- c) have a snack available as well as a source of fast-acting glucose
- d) adjust his/her insulin dose according to the individual health plan

22. Symptoms of hyperglycemia (high blood glucose) include all except:

- a) pain in legs
- b) increased urination
- c) drowsiness
- d) irritability

23. Hyperglycemia (high blood glucose) is best determined by:

- a) the student's appearance
- b) the student's blood glucose value
- c) asking him/her how he is feeling
- d) the student's activity level

24. The treatment of hyperglycemia (high blood sugar) may include which of the following:

- a) administering insulin
- b) following the IHP
- c) administering glucagon
- d) a and b

25. The correct "rights" of medication administration include all except:

- a) right person
- b) right medication
- c) right temperature
- d) right dose
- e) right route
- f) right documentation
- g) right time

26. Carbohydrates are important to watch because they affect blood glucose levels more than any other nutrient.

True False

27. Carbohydrates ("carbs") are found in which of the following:

- a) dairy products
- b) fruits
- c) ketchup and other toppings
- d) all of the above

28. A “carb choice” or serving is the amount of food that contains how many Grams of carbohydrate:

- a) 15 Grams
- b) 10 Grams
- c) 1 Grams
- d) 5 Grams

29. Students with diabetes have an individualized meal plan because:

- a) they have to eat certain foods
- b) they can't have milk products in their foods
- c) they shouldn't have sugar containing foods
- d) they have to calculate the carbohydrate content of foods

30. The insulin to carb ratio is the amount of insulin given to cover for a stated amount of carbs that are eaten.

True False

31. Insulin to carb calculation ratio is individualized for a student:

The student's lunchtime insulin to carb ratio is 1:15. The child ate 60 Grams of carbs. What is the amount of insulin needed to be given to cover the child's lunchtime intake? (Show calculations)

- a) 2 units of regular insulin
- b) 3 units of regular insulin
- c) 4 units of regular insulin
- d) 5 units of regular insulin

32. A child has 1% milk (12gm carbohydrate), a sandwich (30gm carbohydrate) and a cookie (18gm carbohydrate) for lunch. His insulin to carb ration is 1 unit for every 10gm carbohydrate. How much insulin should child receive for amount of carbohydrate? (Show calculations)

- a) 4
- b) 6
- c) 8
- d) 10

33. A child has a correction factor of 1 unit of insulin for every 50mg/dl above 120mg/dl blood sugar. Blood sugar result showed 220mg/dl. How much insulin should child receive for correction factor? (Show calculations)

- a) 2
- b) 3
- c) 4
- d) 5

34. A child is having 75 grams of carbohydrate for lunch, blood sugar before lunch was 220. Insulin to carb ratio is 1 unit for every 15gm carbohydrate, and correction factor is 1 unit for every 50mg/dl above 120mg/dl. How much insulin should child receive? (Show calculations)

- a) 5
- b) 6
- c) 7
- d) 8

35. Supplies to check blood glucose or ketones for use at school are provided by the parent/guardian.

True False

36. Following injection of insulin, the site should be vigorously rubbed for quick absorption.

True False

37. The glucagon kit should be stored in the refrigerator.

True False

38. The person who opens a bottle of insulin should double check the amount of insulin in the bottle and document the amount in the bottle and the expiration date of the bottle.

True False

39. How do you prime an insulin pen?

- a) Dial to 4 units and give an air shot
- b) Rock the pen back and forth to remove the air
- c) Dial to 2 units and give an air shot
- d) An insulin pen doesn't require priming

40. Documentation of the insulin injection includes which of the following:

- a) dose of insulin given
- b) time insulin given
- c) any reactions or problems noted
- d) all of the above

41. Opened vials of insulin will stay fresh and usable for up to 6 months if temperature does not exceed 98 degrees.

True False

42. Students who take rapid-acting insulin should eat within 15 minutes of receiving their injection.

True False

43. Changes in insulin orders can be accepted:

- a) from the health care provider
- b) from the parent
- c) from the student
- d) from the school nurse

ANSWER KEY Competency Examination for Unlicensed School Personnel to Administer Insulin in the School Setting

Name _____ Date _____

Instructions: check only one answer for each question. Thirty-six (36) correct questions provides 85 % score.

1. Type 1 Diabetes is:

- a) the inability of the body to produce adequate insulin
- b) a contagious disease
- c) is caused by eating too much sugar
- d) causes obesity

2. Hypoglycemia is another term used for low blood glucose level.

- a) True
- b) False

3. Which phrase is true about Hypoglycemia:

- a) Is one of the most frequent complications of children with diabetes who receive insulin
- b) Is a condition that involves the heart
- c) Is a condition where there is swelling of the eyes, lips, or tongue
- d) Is a condition where there is itching and/or blisters in the throat of mouth

4. Potential causes for a low blood glucose level may include which of the following:

- a) Too much insulin
- b) Delay in receiving snack/meal
- c) Physical activity
- d) All of the above

5. When is Glucagon usually given to treat Hypoglycemia?

- a) When the student's blood sugar is more than 150 md/dl
- b) Before recess every afternoon
- c) When the student is unable to take liquid or food by mouth
- d) When the student is tired and sleepy

6. How is Glucagon administered?

- a) Under the tongue
- b) By mouth
- c) By injection
- d) Rectally

7. Students with diabetes must check their blood glucose:

- a) three times a day
- b) five times a day
- c) four times at school and four times at home
- d) as outlined in their diabetes medical management plan

8. Which of the following is not used to manage diabetes:

- a) following a recommended eating plan
- b) taking medication as prescribed
- c) limiting physical activity
- d) seeing a healthcare provider routinely

9. The goal of good diabetes management is to:

- a) be as healthy as possible
- b) avoid the complications associated with diabetes
- c) fully participate in all academic and extracurricular activities
- d) keep blood glucose levels within an acceptable range
- e) all of the above

10. Physical activity does not:

- a) control weight
- b) lower blood glucose levels
- c) increase insulin sensitivity
- d) decrease insulin sensitivity

11. Students with diabetes are required to have an individual health plan (IHP)/diabetes medical management plan.

- True False

12. The Individual Health Plan/Diabetes Medical Management Plan does not include:

- a) a list of all the medicines the student is to take while at school for diabetes
- b) a schedule of when blood glucose is to be checked and when medicines are to be administered
- c) the time of recess during the day
- d) ranges of glucose values and steps to take when the values are out of range

13. Insulin may not be administered by using:

- a) tablets
- b) an insulin pump
- c) insulin pens
- d) insulin syringes

14. Students with diabetes should not eat foods with sugar in them.

- True False

15. Students with diabetes may dispose of their blood testing equipment by any of these except:

- a) by taking lancets home, using safe needle disposal recommendations
- b) by taking lancets to the nurse's office, using safe needle disposal recommendations
- c) by adhering to the district policy related to safe needle disposal
- d) by throwing away in the regular trash in the first aid office

16. Symptoms of mild to moderate hypoglycemia (low blood glucose) may include all of these except:

- a) trembling
- b) passing out
- c) confusion
- d) inability to concentrate

17. The best way to determine mild to moderate hypoglycemia (low blood glucose) is determined by:

- a) checking the student's blood glucose
- b) looking at the child's skin color
- c) asking her/him how she/he feels
- d) watching for seizures

18. Which action is not associated with treatment of mild to moderate hypoglycemia (low blood glucose):

- a) eating a snack
- b) administering insulin
- c) following the IHP
- d) documenting the occurrence

19. Symptoms of severe hypoglycemia (low blood glucose) should be suspected if:

- a) the student collapses
- b) has a seizure
- c) the student is crying
- d) a and b
- e) b and c

20. Treating severe hypoglycemia (low blood glucose) should include:

- a) administering fast-acting glucose, if the student can swallow
- b) administering glucagon, if the student is unconscious
- c) administering insulin per the diabetes medical management plan
- d) a and b

21. When engaging in physical activity, a student with diabetes might need to do all these activities except:

- a) monitor blood glucose levels before, during and after the scheduled physical activity
- b) skip lunch and plan to eat extra after the activity
- c) have a snack available as well as a source of fast-acting glucose
- d) adjust his/her insulin dose according to the individual health plan

22. Symptoms of hyperglycemia (high blood glucose) include all except:

- a) pain in legs
- b) increased urination
- c) drowsiness
- d) irritability

23. Hyperglycemia (high blood glucose) is best determined by:

- a) the student's appearance
- b) the student's blood glucose value
- c) asking him/her how he is feeling
- d) the student's activity level

24. The treatment of hyperglycemia (high blood sugar) may include which of the following:

- a) administering insulin
- b) following the IHP
- c) administering glucagon
- d) a and b

25. The correct "rights" of medication administration include all except:

- a) right person
- b) right medication
- c) right temperature
- d) right dose
- e) right route
- f) right documentation
- g) right time

26. Carbohydrates are important to watch because they affect blood glucose levels more than any other nutrient.

- True False

27. Carbohydrates ("carbs") are found in which of the following:

- a) dairy products
- b) fruits
- c) ketchup and other toppings
- d) all of the above

28. A “carb choice” or serving is the amount of food that contains how many Grams of carbohydrate:

- a) 15 Grams
- b) 10 Grams
- c) 1 Grams
- d) 5 Grams

29. Students with diabetes have an individualized meal plan because:

- a) they have to eat certain foods
- b) they can't have milk products in their foods
- c) they shouldn't have sugar containing foods
- d) they have to calculate the carbohydrate content of foods

30. The insulin to carb ratio is the amount of insulin given to cover for a stated amount of carbs that are eaten.

- True False

31. Insulin to carb calculation ratio is individualized for a student:

The student's lunchtime insulin to carb ratio is 1:15. The child ate 60 Grams of carbs. What is the amount of insulin needed to be given to cover the child's lunchtime intake? (Show calculations)

- a) 2 units of regular insulin
- b) 3 units of regular insulin
- c) 4 units of regular insulin
- d) 5 units of regular insulin

32. A child has 1% milk (12gm carbohydrate), a sandwich (30gm carbohydrate) and a cookie (18gm carbohydrate) for lunch. His insulin to carb ration is 1 unit for every 10gm carbohydrate. How much insulin should child receive for amount of carbohydrate? (Show calculations)

- a) 4
- b) 6
- c) 8
- d) 10

33. A child has a correction factor of 1 unit of insulin for every 50mg/dl above 120mg/dl blood sugar. Blood sugar result showed 220mg/dl. How much insulin should child receive for correction factor? (Show calculations)

- a) 2
- b) 3
- c) 4
- d) 5

34. A child is having 75 grams of carbohydrate for lunch, blood sugar before lunch was 220. Insulin to carb ratio is 1 unit for every 15gm carbohydrate, and correction factor is 1 unit for every 50mg/dl above 120mg/dl. How much insulin should child receive? (Show calculations)

- a) 5
- b) 6
- c) 7
- d) 8

35. Supplies to check blood glucose or ketones for use at school are provided by the parent/guardian.

- True False

36. Following injection of insulin, the site should be vigorously rubbed for quick absorption.

- True False

37. The glucagon kit should be stored in the refrigerator.

- True False

38. The person who opens a bottle of insulin should double check the amount of insulin in the bottle and document the amount in the bottle and the expiration date of the bottle.

True False

39. How do you prime an insulin pen?

a) Dial to 4 units and give an air shot

b) Rock the pen back and forth to remove the air

c) Dial to 2 units and give an air shot

d) An insulin pen doesn't require priming

40. Documentation of the insulin injection includes which of the following:

a) dose of insulin given

b) time insulin given

c) any reactions or problems noted

d) all of the above

41. Opened vials of insulin will stay fresh and usable for up to 6 months if temperature does not exceed 98 degrees.

True False

42. Students who take rapid-acting insulin should eat within 15 minutes of receiving their injection.

True False

43. Changes in insulin orders can be accepted:

a) from the health care provider

b) from the parent

c) from the student

d) from the school nurse

Certificate of Completion



Insulin Administration in School Settings Training Course

Name of Participant

RN/APRN Training Instructor

Date