

Recommendation of the Diabetes Advisory Council:

Glucagon as an Emergency Treatment for Reversing Hypoglycemia in Children and Young Adults in the School Setting

Background: Glucagon, a hormone made in the pancreas, is used for the treatment of severe hypoglycemia, which is defined as loss of consciousness or seizures resulting from low blood glucose. Untreated severe hypoglycemia can lead to permanent brain damage and thus, is considered a medical emergency requiring immediate treatment. Severe hypoglycemia generally cannot be treated by oral administration of carbohydrate (sugar). Therefore, glucagon injection is an effective and rapid treatment.

Another effective treatment is the intravenous injection of glucose. This treatment requires medical professionals in attendance, whereas glucagon can be given by anyone capable of injecting insulin. Should glucagon be given to a child who does not have low blood glucose (an example might be a seizure or another reason), there is very little risk of harm. In such a crisis situation, glucagon can be given without knowing the actual glucose level.

If possible, blood glucose should be obtained before treatment is initiated. If this effort will delay treatment for more than one minute or two, then one can start treating hypoglycemia without concern that inappropriate elevation of the blood glucose will harm the child. Glucagon does have the potential to induce vomiting and one should not be alarmed if this does occur. This rarely lasts longer than 30 minutes and small sips of sugar-sweetened beverages may shorten the duration of this side effect.

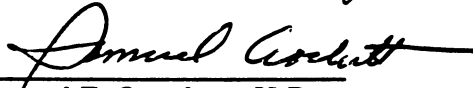
Position: The early recognition of hypoglycemia, when glucose can be administered orally to the still conscious child, should be the goal. Glucagon is reserved for situations where other treatments cannot be used due to unconsciousness and/or seizures.

Monitoring of blood glucose is essential for maintaining good health. Children with diabetes should be allowed to test blood glucose in the school setting. Students with diabetes and their teachers should be familiar with the symptoms of hypoglycemia and able to check the blood glucose level whenever it appears appropriate. Children with diabetes and their authorized diabetes care providers should also have access to glucose-containing foods whenever needed during school or at school-sponsored activities. Prevention of severe hypoglycemia is of the utmost importance.

In spite of careful attention, the infrequent need for glucagon will arise. Those who are responsible for the health of a child during school and/or day care must be able to provide this needed treatment. Individuals in the school setting should have training and written instructions available on glucagon preparation and injection. The identity of these authorized diabetes care

providers should be documented in the student's health record. More than one individual needs to be identified so that coverage is assured. It is the responsibility of the student's parent/guardian to provide the written authorization from the physician and unexpired-glucagon to school personnel.

Submitted on this day August 20, 2001, by:



Samuel E. Crockett, M.D.
Chairman
Diabetes Advisory Council