

understanding of home management of ketones (fluids and additional insulin as directed by the health care team).

### Signs of Hyperglycemia

Severe hyperglycemia is most often caused by illness, growth, emotional upset, or missed insulin doses. Emotional stress from school finals or examinations or physical response to immunizations are examples of causes of hyperglycemia. With careful glucose monitoring, any elevation can be managed by adjustment of insulin or food intake. Parents should understand how to adjust food, activity, and insulin at the time of illness or when the child is treated for an illness with a medication known to raise the blood glucose level (e.g., steroids). The hyperglycemia is managed by increasing insulin soon after the increased glucose level is noted. Health care professionals should be aware that adolescent girls often become hyperglycemic around the time of their menses and should be advised to increase insulin dosages if necessary.

### Signs of Hypoglycemia

Hypoglycemia is caused by imbalances of food intake, insulin, and activity. Ideally, hypoglycemia should be prevented, and parents need to be prepared to prevent, recognize, and treat the problem. They should be familiar with the signs of hypoglycemia and instructed in treatment, including care of the child with seizures. Early signs are adrenergic, including sweating and trembling, which help raise the blood glucose level, similar to the reaction when an individual is startled or anxious. The second set of symptoms that follow an untreated adrenergic reaction is neuroglycopenic (also called *brain hypoglycemia*). These symptoms typically include difficulty with balance, memory, attention, or concentration; dizziness or lightheadedness; and slurred speech. Severe and prolonged hypoglycemia leads to seizures, coma, and possible death (Cryer, 2008). Hypoglycemia can be managed effectively as outlined in the [Emergency Treatment](#) box.

## Emergency Treatment