

Nursing Alert

Vomiting may occur after administration of glucagon; therefore, precautions against aspiration must be taken (e.g., placing the child on the side) because the child often becomes unconscious.

Morning hyperglycemia.

The management of elevated morning blood glucose levels depends on whether the increase is a true dawn phenomenon, **insulin waning**, or a rebound hyperglycemia (the **Somogyi effect**). Insulin waning is a progressive rise in blood glucose levels from bedtime to morning. It is treated by increasing the nocturnal insulin dose. The true dawn phenomenon shows relatively normal blood glucose level until about 3 AM, when the level begins to rise. The Somogyi effect may occur at any time but often entails an elevated blood glucose level at bedtime and a drop at 2 AM, with a rebound rise following. The treatment for this phenomenon is decreasing the nocturnal insulin dose to prevent the 2 AM hypoglycemia. The rebound rise in the blood glucose level is a result of counterregulatory hormones (epinephrine, GH, and corticosteroids), which are stimulated by hypoglycemia. More frequent blood monitoring (especially at times of anticipated peak insulin action) will usually identify these conditions. Trace amounts of urinary ketones aid in identifying undetected hypoglycemia.

Illness Management

Illness alters diabetes management, and maintaining control is usually related to the seriousness of the illness. In a well-controlled child, an illness will run its course as it does in unaffected children. The goals during an illness are to restore euglycemia, treat urinary ketones, and maintain hydration. Blood glucose levels and urinary ketones should be monitored every 3 hours. Some hyperglycemia and ketonuria are expected in most illnesses, even with diminished food intake, and are an indication for increased insulin. Insulin should never be omitted during an illness, although dosage requirements may increase, decrease, or remain unchanged, depending on the severity of the illness and the child's appetite. Often the child will need supplemental insulin between usual dose times. If the child vomits more than once, if blood glucose levels