

## Signs and Symptoms of Diabetes in Infants

Diabetes can affect individuals of any age, including infants and children. Knowing that your baby has diabetes can be really frightening. But by learning how to perform glucose testing and give insulin, you can help your child to grow up healthy. The first thing you need to do, though, is to keep your own stress level down. Your baby can sense if you feel anxious, so it is up to you to be as brave as your little one.

### Types

Medical experts say that Type 1 diabetes is the form of the disease most often diagnosed in infants. More commonly known as juvenile onset diabetes, this autoimmune disorder prevents the body from producing enough insulin, a hormone needed so that cells can break down glucose for energy. Type 2, or non-insulin dependent diabetes, can also affect infants. Insulin resistance is the primary cause of Type 2 diabetes. As a result, both insulin and blood sugar levels in the body continue to rise. Certain medical conditions or genetic disorders, such as Down syndrome and Turner syndrome, can cause this type of diabetes as well.

### Symptoms

The American Academy of Pediatrics tells parents to contact their child's pediatrician immediately if she shows any of the following symptoms. Crankiness, sweating, trembling, paleness and bluish tinge to the lips or fingers are symptoms that an infant might be hypoglycemic. A glucose test should be performed, as treatment may be needed if the infant's blood sugar is too low. A baby's brain development requires a continuous supply of glucose. Therefore, parents must carefully manage their child's diabetes. Likewise, when an infant's glucose levels climb too high, hyperglycemia means that your infant may not be getting enough insulin in combination with how much you are feeding her. While infants often display no symptoms of abnormally high blood sugar, sometimes a baby with hyperglycemia may become dehydrated or show signs of frequent urination.

### Prevention

An infant's feedings must be balanced with his insulin intake in order to reduce the chances of him developing hypoglycemia. Because infants and young children have high metabolisms and an immune system, which is not yet fully developed, dehydration is a major risk. Since an infant depends on a parent or other caregiver for feeding, getting adequate amounts of fluids is necessary for preventing dehydration, which can lead to ketoacidosis, or worse yet, diabetic coma. Ketoacidosis is a serious condition that occurs when acids known as ketones build up in the blood when the body does not get enough insulin. However, effectively managing an infant's diabetes can prevent complications such as these from occurring. Disease management is critical, as studies indicate that individuals with Type 1 diabetes are at greater risk of eventually developing other autoimmune disorders. According to the Juvenile Diabetes Research Foundation,

a growing body of research suggests that some of the same factors, which cause diabetes may well cause other disease processes related to the body's immune system.

### Treatment

Low glucose levels in infants can be easily treated. A sweet drink like apple juice usually provides the carbohydrates needed to return a baby's glucose levels to normal. But if blood sugar drops so low that an infant goes into insulin shock, unconsciousness can occur. In this case, it may be necessary to administer glucagons to prevent brain damage and diabetic coma. Severe hyperglycemia also can lead to diabetic coma, which is potentially fatal. Lack of insulin causes an infant's blood sugar to rise, leading to diabetic ketoacidosis, which produces an excessively high level of ketones in the baby's blood and urine. Should this happen, your child's physician will need to adjust insulin dosages to bring glucose levels within the normal range.

### Disease Management

The American Academy of Pediatrics says that the amount of insulin a baby needs varies according to quantity and timing of feedings, activity levels, and stages of growth and development. Your child's pediatrician will instruct you on the type, dosage and frequency of insulin injections for your baby. As the parents of a diabetic infant, you will be responsible for feedings, monitoring blood glucose levels and giving insulin injections. In some cases, insulin pumps are used for infants and toddlers. While there are both benefits and disadvantages to this method of treatment, an insulin pump eliminates the need for syringe injections. While the American Diabetes Association (ADA) maintains that continuous subcutaneous insulin infusion may be beneficial to infants, more long-term studies are needed. In the meantime, the ADA recommends discussing the advantages of this treatment option with your child's physician and diabetes care team.

### Warning

When the pancreas produces too much insulin, a genetic disorder known as PHHI (persistent hyperinsulinemic hypoglycemia of infancy) is generally the reason. Although the condition is rare, it is the leading cause of hypoglycemia in young infants. Babies having this condition can have symptoms such as an enlarged heart and liver. A newborn infant with PHHI may also be considered large for gestational age.

### What the Experts Say

Pediatricians tell parents to hold and comfort a child after each glucose test or insulin injection. Remember, your baby does not understand what you are doing. A previous study published in the "Archives of Pediatrics and Adolescent Medicine" suggests that behavioral interventions by parents seem to reduce an infant's distress at needle injections. Talk to your child in a soothing voice before you deliver a pinprick or administer injections. Try to relax your infant and distract her attention by giving her a pacifier or favorite toy. Never give diabetic care while your baby is in her crib, as you do not want her to associate it with painful experiences. Keep in mind, too, that infants

usually require more frequent glucose testing than older children because they cannot tell you if they are experiencing symptoms of abnormal blood sugar levels.

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