

109.00 Endocrine Disorders - Childhood

Section

109.00 Endocrine Disorders

A. What is an endocrine disorder?

An endocrine disorder is a medical condition that causes a hormonal imbalance. When an endocrine gland functions abnormally, producing either too much of a specific hormone (hyperfunction) or too little (hypofunction), the hormonal imbalance can cause various complications in the body. The major glands of the endocrine system are the pituitary, thyroid, parathyroid, adrenal, and pancreas.

B. How do we evaluate the effects of endocrine disorders? The only listing in this body system addresses children from birth to the attainment of age 6 who have diabetes mellitus (DM) and require daily insulin. We evaluate other impairments that result from endocrine disorders under the listings for other body systems. For example:

1. Pituitary gland disorders can disrupt hormone production and normal functioning in other endocrine glands and in many body systems. The effects of pituitary gland disorders vary depending on which hormones are involved. For example, when pituitary growth hormone deficiency in growing children limits bone maturation and results in pathological short stature, we evaluate this linear growth impairment under 100.00. When pituitary hypofunction affects water and electrolyte balance in the kidney and leads to diabetes insipidus, we evaluate the effects of recurrent dehydration under 106.00.

2. Thyroid gland disorders affect the sympathetic nervous system and normal metabolism. We evaluate thyroid-related changes in linear growth under 100.00; thyroid-related changes in blood pressure and heart rate that cause cardiac arrhythmias or other cardiac dysfunction under 104.00; thyroid-related weight loss under 105.00; and cognitive limitations, mood disorders, and anxiety under 112.00.

3. Parathyroid gland disorders affect calcium levels in bone, blood, nerves, muscle, and other body tissues. We evaluate parathyroid-related osteoporosis and fractures under 101.00; abnormally

elevated calcium levels in the blood (hypercalcemia) that lead to cataracts under 102.00; kidney failure under 106.00; and recurrent abnormally low blood calcium levels (hypocalcemia) that lead to increased excitability of nerves and muscles, such as tetany and muscle spasms, under 111.00.

4. Adrenal gland disorders affect bone calcium levels, blood pressure, metabolism, and mental status. We evaluate adrenal-related linear growth impairments under 100.00; adrenal-related osteoporosis with fractures that compromises the ability to walk or to use the upper extremities under 101.00; adrenal-related hypertension that worsens heart failure or causes recurrent arrhythmias under 104.00; adrenal-related weight loss under 105.00; and mood disorders under 112.00.

5. Diabetes mellitus and other pancreatic gland disorders disrupt the production of several hormones, including insulin, that regulate metabolism and digestion. Insulin is essential to the absorption of glucose from the bloodstream into body cells for conversion into cellular energy. The most common pancreatic gland disorder is diabetes mellitus (DM). There are two major types of DM: type 1 and type 2. Both type 1 and type 2 DM are chronic disorders that can have serious, disabling complications that meet the duration requirement. Type 1 DM--previously known as “juvenile diabetes” or “insulin-dependent diabetes mellitus” (IDDM)--is an absolute deficiency of insulin secretion that commonly begins in childhood and continues throughout adulthood. Treatment of type 1 DM always requires lifelong daily insulin. With type 2 DM--previously known as “adult-onset diabetes mellitus” or “non-insulin-dependent diabetes mellitus” (NIDDM)--the body’s cells resist the effects of insulin, impairing glucose absorption and metabolism. Type 2 is less common than type 1 DM in children, but physicians are increasingly diagnosing type 2 DM before age 18. Treatment of type 2 DM generally requires lifestyle changes, such as increased exercise and dietary modification, and sometimes insulin in addition to other medications. While both type 1 and type 2 DM are usually controlled, some children do not achieve good control for a variety of reasons including, but not limited to, hypoglycemia unawareness, other disorders that can affect blood glucose levels, inability to manage DM due to a mental disorder, or inadequate treatment.

a. Hyperglycemia. Both types of DM cause hyperglycemia, which is an abnormally high level of blood glucose that may produce acute and long-term complications. Acute complications of hyperglycemia include diabetic ketoacidosis. Long-term

complications of chronic hyperglycemia include many conditions affecting various body systems but are rare in children.

b. Diabetic ketoacidosis (DKA). DKA is an acute, potentially life-threatening complication of DM in which the chemical balance of the body becomes dangerously hyperglycemic and acidic. It results from a severe insulin deficiency, which can occur due to missed or inadequate daily insulin therapy or in association with an acute illness. It usually requires hospital treatment to correct the acute complications of dehydration, electrolyte imbalance, and insulin deficiency. You may have serious complications resulting from your treatment, which we evaluate under the affected body system. For example, we evaluate cardiac arrhythmias under 104.00, intestinal necrosis under 105.00, and cerebral edema and seizures under 111.00. Recurrent episodes of DKA in adolescents may result from mood or eating disorders, which we evaluate under 112.00.

c. Hypoglycemia. Children with DM may experience episodes of hypoglycemia, which is an abnormally low level of blood glucose. Most children age 6 and older recognize the symptoms of hypoglycemia and reverse them by consuming substances containing glucose; however, some do not take this step because of hypoglycemia unawareness. Severe hypoglycemia can lead to complications, including seizures or loss of consciousness, which we evaluate under 111.00, or altered mental status, cognitive deficits, and permanent brain damage, which we evaluate under 112.00.

C. How do we evaluate DM in children?

Listing 109.08 is only for children with DM who have not attained age 6 and who require daily insulin. For all other children (that is, children with DM who are age 6 or older and require daily insulin, and children of any age with DM who do not require daily insulin), we follow our rules for determining whether the DM is severe, alone or in combination with another impairment, whether it meets or medically equals the criteria of a listing in another body system, or functionally equals the listings under the criteria in §416.926a, considering the factors in §416.924a. The management of DM in children can be complex and variable from day to day, and all children with DM require some level of adult supervision. For example, if a child age 6 or older has a medical need for 24-hour-a-day adult supervision of insulin treatment, food intake, and physical activity to ensure survival, we will find that the child's impairment functionally equals the listings based on the example

in §416.926a(m)(5).

D. How do we evaluate other endocrine disorders that do not have effects that meet or medically equal the criteria of any listing in other body systems? If your impairment(s) does not meet or medically equal a listing in another body system, we will consider whether your impairment(s) functionally equals the listings under the criteria in §416.926a, considering the factors in §416.924a. When we decide whether you continue to be disabled, we use the rules in §416.994a.

109.08 *Any type of diabetes mellitus in a child who requires daily insulin and has not attained age 6.* Consider under a disability until the attainment of age 6. Thereafter, evaluate the diabetes mellitus according to the rules in 109.00B5 and C.