

symptoms are the earliest indication, assessment of other body systems for evidence of high calcium levels is indicated when polyuria and polydipsia coexist. Clues to the possibility of hyperparathyroidism include change in behavior, especially inactivity; unexplained gastrointestinal symptoms; and cardiac irregularities.

Disorders of Adrenal Function

The **adrenal cortex** secretes three main groups of hormones collectively called **steroids** and classified according to their biologic activity: (1) **glucocorticoids** (cortisol, corticosterone), (2) **mineralocorticoids** (aldosterone), and (3) **sex steroids** (androgens, estrogens, and progestins). The glucocorticoids and mineralocorticoids affect metabolism and stress. The sex steroids influence sexual development but are not essential because the gonads secrete the major supply of these hormones.

The **adrenal medulla** secretes the **catecholamines epinephrine** and **norepinephrine**. Both hormones have the same effects on various organs as those caused by direct sympathetic stimulation except the hormonal effects last several times longer. Catecholamine-secreting tumors are the primary cause of adrenal medullary hyperfunction.

Acute Adrenocortical Insufficiency

The acute form of adrenocortical insufficiency (**adrenal crisis**) may have a number of causes during childhood. Although rare, causes of adrenal insufficiency in children include hemorrhage into the gland from trauma, which may be caused by a difficult labor; fulminating infections, such as meningococemia; abrupt withdrawal of exogenous sources of cortisone or failure to increase exogenous supplies during stress; or congenital adrenogenital hyperplasia of the salt-losing type.

Early symptoms of adrenocortical insufficiency include increased irritability, headache, diffuse abdominal pain, weakness, nausea and vomiting, and diarrhea. Other clinical signs are found in [Box 28-10](#). In newborns, adrenal crisis is accompanied by high fever, tachypnea, cyanosis, and seizures. Usually there is no evidence of