The Endocrine System and ICD-10-CM/PCS

By Cortnie R. Simmons, MHA, RHIA, CCS

This is the first in a series of articles focusing on body systems, the systems' common medical terminology, and some differences in the systems' ICD-10-CM/PCS code assignments.

So here we are in 2011, a little bit closer to October 2013, and by now every coding professional should know what will be transpiring. While training on the new ICD-10-CM/PCS coding system and learning new codes can wait until the October 2013 implementation date nears, HIM and coding professionals should be beginning to gain the fundamental skills necessary to be successful in the ICD-10-CM/PCS environment. Coders should be assessing their knowledge of anatomy and physiology and preparing for ICD-10-CM/PCS's more detailed documentation requirements for code capture. The upcoming series of articles will review and discuss the various anatomy and physiology body systems as well as how ICD-10-CM/PCS is impacted by them. This should help coders and coding professionals jumpstart their ICD-10-CM/PCS preparation, highlighting key areas of anatomy and physiology upon which HIM and coding professionals should focus their studies to be successful in the new environment. Let's start with the endocrine system.

The endocrine system works with the central nervous system to regulate body functions. It is composed of a system of ductless glands, each of which secretes a type of hormone into the bloodstream to regulate the body. It uses hormones to affect longer and more generalized responses such as growth, sexual maturation, and metabolic activities. The major endocrine glands include:

- Pituitary
- Thyroid
- Parathyroids
- Adrenals
- Pancreas
- Pineal
- Ovaries/Testes
- Thymus

Now let's discuss some of these glands.

**Pituitary**

The pituitary gland is also referred to as the hypophysis. It is an extremely small gland that is located in the sella turcica and is attached to the hypothalamus of the brain. The pituitary gland is divided into posterior and anterior lobes which are named the adenohypophysis and neurohypophysis respectively. The anterior pituitary (or adenohypophysis) regulates several physiological processes including stress, growth, and reproduction. The posterior pituitary (or neurohypophysis) stores and secretes two hormones: oxytocin and antidiuretic hormone, which is also referred to as vasopressin. Insufficient secretion of vasopressin underlies diabetes insipidus, a condition in which the body loses the capacity to concentrate urine. Oversecretion of vasopressin causes the syndrome of inappropriate antidiuretic hormone. Other diseases coders may have seen that are the result of under or over function in the pituitary gland are acromegaly, hyperprolactinemia, and Cushing's syndrome.

**Thyroid**

The thyroid gland is one of the largest glands in the body. It is found in the neck just below your Adam's apple. The thyroid controls how quickly the body uses energy, makes proteins, and controls how sensitive the body should be
to other hormones. Coders may be familiar with the terms hyperthyroidism and hypothyroidism. These terms refer to the overproduction and underproduction of the thyroid hormones respectively. In severe cases of hyperthyroidism a thyroid storm or thyrotoxic crisis can be formed. Graves' disease is a form of hyperthyroidism which can cause protrusion of the eyes and skin changes. Graves' disease with goiter with thyroid storm was coded as 242.01 in ICD-9-CM, however in ICD-10-CM/PCS the code is E05.01. Hypothyroidism could lead to depression, attention, and/or memory loss and hyperthyroidism can be seen in agitation, irritability, and weight loss.

Parathyroid

The parathyroid gland is located on the dorsal aspect of the thyroid gland. They secrete parathyroid hormone (PTH) which causes an increase in blood calcium levels by targeting bone, the intestine, and the kidneys. PTH release is triggered by falling blood calcium levels and is inhibited by rising blood calcium levels. Hyperparathyroidism (which is seen in diseases of the parathyroid) results in hypercalcaemia and all its effects and in extreme bone wasting. It is most commonly caused by a tumor of one of the four parathyroid glands. The rare disorder hypoparathyroidism leads to hypocalcaemia, evidenced by tetany and respiratory paralysis.

Adrenals

The adrenal glands are endocrine glands that sit on top of the kidneys. They are chiefly responsible for releasing hormones in conjunction with stress through the synthesis of corticosteroids such as cortisol and catecholamines, such as epinephrine. Adrenal glands affect kidney function through the secretion of aldosterone, a hormone involved in regulating plasma osmolarity. Overproduction of sex hormones by the adrenal gland causes adrenogenital disorders. Disorders such as hyperaldosteronism, Cushing's syndrome, and Addison's disease are also seen as the result of the over or under production of the adrenal gland.

Pancreas

The pancreas is located near the stomach. It is both an endocrine and exocrine gland. The endocrine portion releases insulin and glucagon and smaller amounts of other hormones to the blood. The most recognized disorder of the endocrine portion of the pancreas for coders is diabetes mellitus. Diabetes mellitus is characterized by high blood sugar resulting from a defect in insulin secretion by the pancreas. Insufficient production of insulin is the primary cause of Type 1 diabetes. Type 2 is primarily caused by insulin resistance or the inability of the cells of the body to effectively use the insulin that is produced. As most coders know, untreated and uncontrolled diabetes can lead to a number of complications. One of the nice things that we see in ICD-10-CM/PCS is the use of combination codes to document diabetes and its associated complication. For instance in ICD-9-CM diabetes type 1 with peripheral angiopathy is coded to 250.71 and 443.81, however in ICD-10-CM/PCS only one code is used- E10.51.

Pineal

The pineal gland is located in the diencephalon, in the forebrain near the midline. Its primary hormone is melatonin, which influences daily rhythms and may inhibit the activities of certain endocrine cells in the pituitary in humans. It is needed for reproductive development and to help maintain normal daily physiologic cycles. Disorders of the pineal gland are not specifically identified in ICD-9-CM or ICD-10-CM/PCS and are reported using the code for other specified endocrine disorders.

Ovaries/Testes

Gonadocorticoids are secreted by the ovaries and testes. Although the gonads are part of the endocrine system, their primary purpose is to produce gametes. The woman's ovaries are located on both sides of the uterus below the opening of the fallopian tubes. The ovaries produce estrogen and progesterone. These two hormones affect many of the female characteristics and reproductive functions such as, but not limited to, regulation of the menstrual cycle, maintenance of pregnancy, and distribution of fat in the legs, hips, and breasts.

The male's testes are egg-shaped organs that hang in a pouch of skin called the scrotum outside the male body. The testes produce testosterone, which affects many of the male characteristics and sperm production such as (but not
limited to) growth and development of male reproductive structures, skeletal and muscular growth, and voice changes. Disease and/or disorders involving the ovaries and test in the endocrine system include ovarian dysfunction, testicular dysfunction, and disorders in puberty.

**Thymus**

The thymus is located behind the sternum and between the lungs. Its major function is to protect the body from infection. Disorders of the thymus in ICD-9-CM and ICD-10-CM/PCS are the enlargement of the thymus gland which is referred to as hyperplasia and abscess of the thymus.

**Significant changes to ICD-10-CM/PCS**

**Chapter Differences**

From an ICD-10-CM/PCS standpoint the endocrine system has seen some revisions. In ICD-9-CM-CM the endocrine, nutritional, and metabolic diseases are contained in Chapter 3 (codes 240-279); however in ICD-10-CM/PCS-CM the chapter has moved to chapter 4 (codes E00-E89). All codes for disease or disorders in the endocrine chapter 4 in ICD-10-CM/PCS also start with the character E. This allows the coder to quickly identify any code that starts with an E as a code from Chapter 4. Additionally, ICD-10-CM/PCS has moved certain disorders of the immune system that were once included in the "Endocrine, Nutritional, and Metabolic Disease and Immunity" chapter in ICD-9-CM to the new chapter 3 in ICD-10-CM/PCS, "Diseases of the Blood, Blood Forming Organs, and Certain Disorders Involving the Immune Mechanism". There has been other reorganization or reclassification as well, for example with gout. In ICD-9-CM, gout is classified within Chapter 3, "Endocrine, Nutritional, and Metabolic Diseases and Immunity Disorders." In ICD-10-CM/PCS, gout was moved to Chapter 13, "Diseases of the Musculoskeletal System and Connective Tissue."

**Documentation Differences**

The coding of diabetes is one of the major changes that we see in the endocrine chapter from a documentation perspective. Type 1 and 2 are no longer classified as controlled and uncontrolled. In the ICD-10-CM/PCS Index inadequately controlled, out of control, and poorly controlled are coded to Diabetes, by type, with hyperglycemia. Additionally, we find that more specific information is needed to assign codes for certain disease or disorders in the endocrine chapter. For example:

- Metabolic disorders require greater detail related to specific amino acid, carbohydrate, or lipid enzyme deficiency responsible for the metabolic disorder
- Cushing's syndrome is now differentiated by type and cause
- Secondary diabetes mellitus now requires documentation related to whether the condition is due to an underlying condition or whether it is drug or chemically induced
- More specific information is required to code disorders of the parathyroid gland
- Vitamins, mineral, and other nutritional deficiencies require more information on the specific vitamin(s) and mineral(s)

I was unable to capture all of the Anatomy and Physiology of the endocrine system in this one article; however I hope this gave you an idea of the things that we as coding professionals should be beginning to read and focus on for ICD-10-CM/PCS. For more seasoned coders, this will be a refresher to the A&P that we once took before joining the coding profession. There is no doubt that ICD-10-CM/PCS is going to be a bit of a change, but I believe that it will be a good one. With any change there are hurdles but proper preparation will let you scale any obstacle!

*Cortnie Simmons* is a national compliance manager at Kforce Healthcare and an AHIMA-approved ICD-10-CM/PCS trainer.

**Article citation:**