poor lung function (O'Riordan, Dattani, and Hindmarsh, 2010). The primary characteristic of CFRD is severe insulin deficiency as a result of β-cell dysfunction; however, CFRD also may demonstrate fluctuating insulin resistance, especially during acute illness. Thus, CFRD has characteristics of both type 1 diabetes mellitus and type 2 diabetes mellitus but is considered to be its own entity (Moran, Brunzell, Cohen, et al, 2010; O'Riordan, Dattani, and Hindmarsh, 2010). The positive correlation between nutritional status and optimal pulmonary function in patients with CF has been described; the presence of adequate insulin appears to be a key factor in maintaining an adequate nutritional status. Experts continue to recommend a high-fat, high-calorie diet in CF patients, and at this time there is no evidence to support a change in this diet for patients with CFRD (Ode and Moran, 2013).

A common gastrointestinal complication associated with CF is **prolapse of the rectum**, which occurs in infancy and childhood and is related to large, bulky stools; malnutrition; and increased intra-abdominal pressure secondary to paroxysmal cough. Affected children of all ages are subject to intestinal obstruction from heavy or impacted feces. Gum-like masses in the cecum can obstruct the bowel and produce a partial or complete obstruction, a condition that is referred to as **distal intestinal obstruction syndrome**.

Pulmonary complications are present in almost all children with CF, but the onset and extent of involvement are variable. Symptoms are produced by stagnation of mucus in the airways, with eventual bacterial colonization leading to destruction of lung tissue. The abnormally viscous and tenacious secretions are difficult to expectorate and gradually obstruct the bronchi and bronchioles, causing scattered areas of bronchiectasis, atelectasis, and hyperinflation. The stagnant mucus also offers a favorable environment for bacterial growth.

The reproductive systems of both males and females with CF are affected. Fertility can be inhibited by highly viscous cervical secretions, which act as a plug, blocking sperm entry. Women with CF who become pregnant have an increased incidence of premature labor and delivery and infant low birth weight. Favorable nutritional status and pulmonary function are positively correlated with favorable pregnancy outcomes. Most men (95%) with CF are sterile, which may be caused by blockage of the vas deferens with