

# chapter 24

## Corticosteroids

### Objectives

AFTER STUDYING THIS CHAPTER, THE STUDENT WILL BE ABLE TO:

1. Review physiologic effects of endogenous corticosteroids.
2. Discuss clinical indications for use of exogenous corticosteroids.
3. Differentiate between physiologic and pharmacologic doses of corticosteroids.
4. Differentiate between short-term and long-term corticosteroid therapy.
5. List at least 10 adverse effects of long-term corticosteroid therapy.
6. Explain the pathophysiologic basis of adverse effects.
7. State the rationale for giving corticosteroids topically when possible rather than systemically.
8. Use other drugs and interventions to decrease the need for corticosteroids.
9. Discuss the use of corticosteroids in selected populations and conditions.
10. Apply the nursing process with a client receiving long-term systemic corticosteroid therapy, including teaching needs.

### Critical Thinking Scenario

Sally, 15 years of age, was hospitalized with ulcerative colitis 2 days ago. When you enter her room, she is crying and does not look up. You sit down quietly beside her. Finally, she begins to tell you her fears. “The doctor says I have to go on steroids for my ulcerative colitis. I remember this girl in middle school who had a kidney transplant and had to take steroids. She gained lots of weight and her face became round and fat. I don’t want that to happen to me.”

### Reflect on:

- ▶ The developmental level of a 15-year-old.
- ▶ The impact a chronic illness or long-term use of corticosteroids would have for an adolescent.
- ▶ What you could say in this situation that might be helpful. Provide rationale.
- ▶ What you should not say in this situation. Provide rationale.

### OVERVIEW

Corticosteroids, also called *glucocorticoids* or *steroids*, are hormones produced by the adrenal cortex. These hormones affect almost all body organs and are extremely important in maintaining homeostasis when secreted in normal amounts. Disease results from inadequate or excessive secretion. Exogenous corticosteroids are used as drugs in a variety of disorders. Their use must be closely monitored because the drugs produce profound therapeutic and adverse effects. To understand the effects of corticosteroids used as drugs, it is necessary to understand physiologic effects and other characteristics of the endogenous hormones.

### ENDOGENOUS CORTICOSTEROIDS

The adrenal cortex produces approximately 30 steroid hormones, which are divided into glucocorticoids, mineralocorticoids, and adrenal sex hormones. Glucocorticoids are important in metabolic, inflammatory, and immune processes. Mineralocorticoids are important in maintaining fluid and electrolyte balance. The adrenal sex hormones have little effect on normal body function.

Chemically, all corticosteroids are derived from cholesterol and have similar chemical structures. Despite their similarities, however, slight differences cause them to have different functions.