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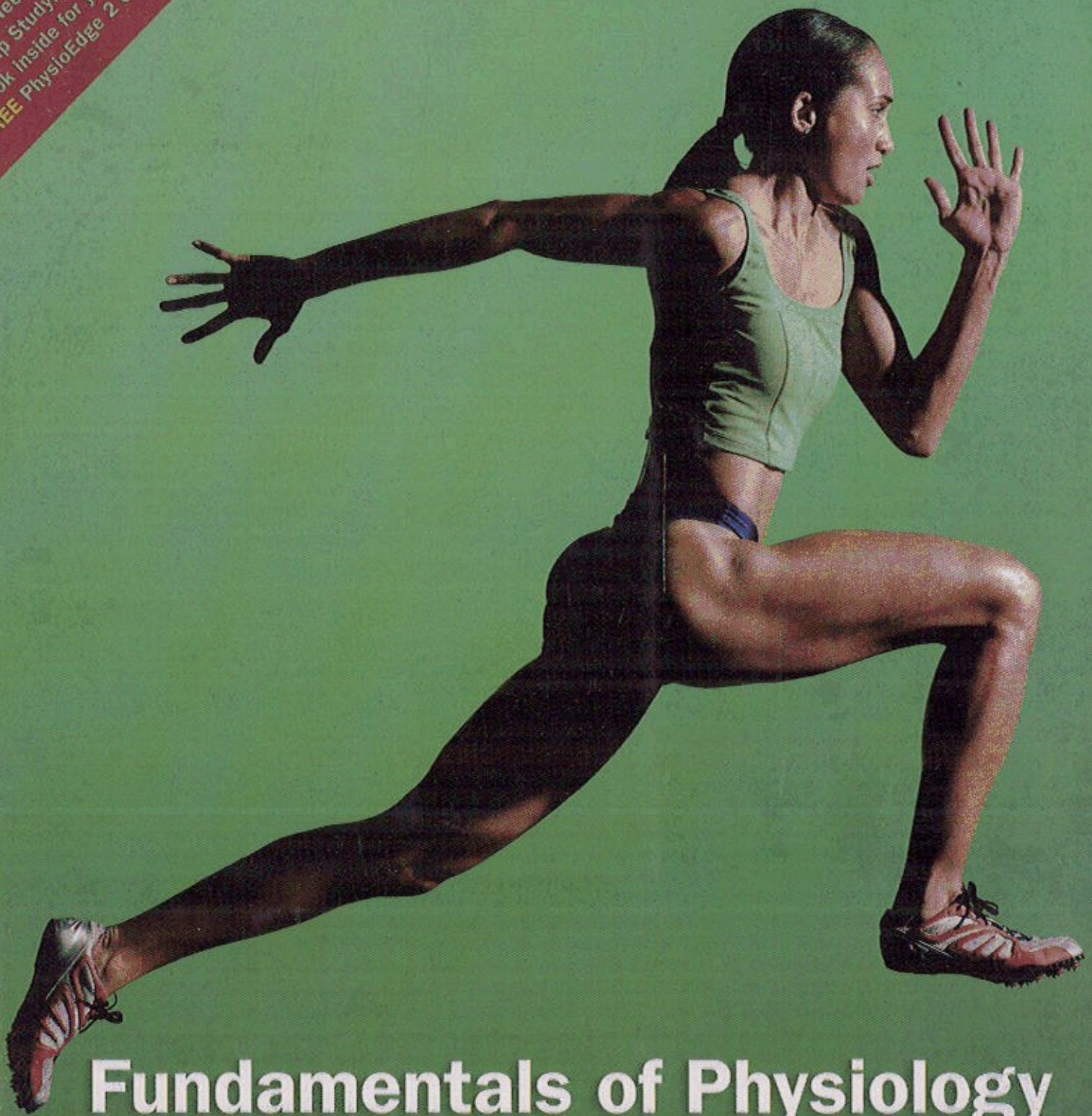

Fundamentals of Physiology

A HUMAN PERSPECTIVE

THIRD EDITION

Lauralee Sherwood

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Glucose is an example of an actively reabsorbed substance that is not regulated by the kidneys. **419**
Phosphate is an example of an actively reabsorbed substance that is regulated by the kidneys. **420**
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The adrenal cortex secretes mineralocorticoids, glucocorticoids, and sex hormones. **553**
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The stress response is a generalized pattern of reactions to any situation that threatens homeostasis. **558**
The multifaceted stress response is coordinated by the hypothalamus. **560**

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Fuel metabolism includes anabolism, catabolism, and interconversions among energy-rich organic molecules. **561**
Because food intake is intermittent, nutrients must be stored for use between meals. **562**
The brain must be continuously supplied with glucose. **563**
Metabolic fuels are stored during the absorptive state and mobilized during the postabsorptive state. **563**
The pancreatic hormones, insulin and glucagon, are most important in regulating fuel metabolism. **564**
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Parathyroid hormone raises free plasma Ca^{2+} levels by its effects on bone, kidneys, and intestine. **573**
Bone continuously undergoes remodeling. **574**
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PTH promotes the transfer of Ca^{2+} from bone to plasma. **574**
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PTH indirectly promotes absorption of Ca^{2+} and PO_4^{3-} by the intestine. **575**
The primary regulator of PTH secretion is the plasma concentration of free Ca^{2+}. **575**
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The testicular Leydig cells secrete masculinizing testosterone. **589**
Spermatogenesis yields an abundance of highly specialized, mobile sperm. **591**
Throughout their development, sperm remain intimately associated with Sertoli cells. **592**
LH and FSH from the anterior pituitary control testosterone secretion and spermatogenesis. **593**

Gonadotropin-releasing hormone activity increases at puberty. **594**
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The accessory sex glands contribute the bulk of the semen. **594**
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Erection is accomplished by penis vasocongestion. **597**
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The luteal phase is characterized by the presence of a corpus luteum. **605**
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