

Aldosterone	reabsorb sodium, thus promoting water retention but potassium loss	insufficiency	imbalance Hyperaldosteronism
Sex hormones: Androgens, estrogens, progesterone	Influence development of bone, reproductive organs, and secondary sex characteristics	Male feminization	Adrenogenital syndrome
Glucocorticoids Cortisol (hydrocortisone and compound F) Corticosterone (compound B)	Promote normal fat, protein, and carbohydrate metabolism Mobilize body defenses during periods of stress Suppress inflammatory reaction	Addison disease Acute adrenocortical insufficiency Impaired growth and sexual function	Cushing syndrome Severe impairment of growth with slowing in skeletal maturation In excess, tend to accelerate gluconeogenesis and protein and fat catabolism
<b>Adrenal Medulla</b>			
Epinephrine (adrenaline), norepinephrine (noradrenaline)	Produce vasoconstriction of heart and smooth muscles (raise blood pressure) Increase blood glucose via glycolysis Inhibit GI activity Activate sweat glands		Hyperfunction caused by: <ul style="list-style-type: none"> <li>• Pheochromocytoma</li> <li>• Neuroblastoma</li> <li>• Ganglioneuroma</li> </ul>
<b>Islets of Langerhans of Pancreas</b>			
Insulin ( $\beta$ cells)	Promotes glucose transport into the cells Increases glucose utilization, glycogenesis, and glycolysis Promotes fatty acid transport into cells and lipogenesis Promotes amino acid transport into cells and protein synthesis	DM	Hyperinsulinism
Glucagon ( $\alpha$ cells)	Acts as antagonist to insulin, thereby increasing blood glucose concentration by accelerating glycogenolysis Able to inhibit secretion of both insulin and glycogen		Hyperglycemia May be instrumental in genesis of DKA in DM
Somatostatin ( $\delta$ cells)	Able to inhibit secretion of both insulin and glycogen		
<b>Ovaries</b>			
Estrogen	Accelerates growth of epithelial cells, especially in uterus after menses Promotes protein anabolism Promotes epiphyseal closure of bones Promotes breast development during puberty and pregnancy Plays role in sexual function Stimulates water and sodium reabsorption in renal tubules Stimulates ripening of ova	Lack of or repression of sexual development	Precocious puberty, early epiphyseal closure