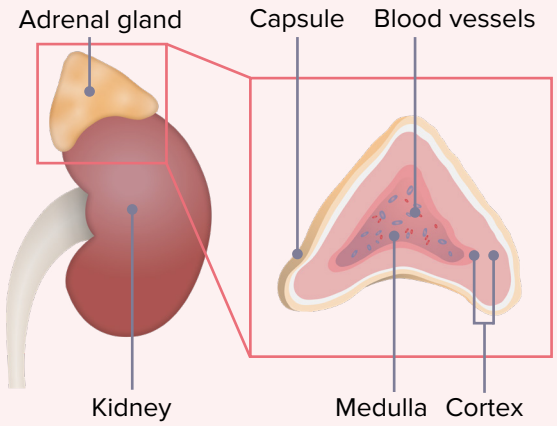
COMPARISON OF MINERALOCORTICOIDS AND GLUCOCORTICOIDS

	Mineralocorticoids	Glucocorticoids
Where are they produced?	Zona glomerulosa of adrenal cortex in adrenal glands	Adrenal cortex of adrenal glands
Examples	• Aldosterone • 11-deoxycorticosterone • 18-hydroxydeoxycorticosterone	• **Natural glucocorticoids:** cortisone, hydrocortisone • **Synthetic glucocorticoids:** prednisolone, triamcinolone, dexamethasone
Function	• Electrolyte balance • Control and homeostasis of blood pressure • Promote retention of sodium (Na) and secretion of potassium (K) and hydrogen (H)	• Regulate body functions • Control cell metabolism, growth, differentiation, and apoptosis • Immune modulatory mechanisms • Potent suppressors of inflammation • Immune-suppressive activities • Synthetic glucocorticoids are prescribed for treatment of inflammation, autoimmune, and inflammatory diseases.
Secretion	Secretion controlled in the target organ, the kidney (cell in the juxtaglomerular apparatus of the kidneys)	Secretion controlled by the HPA (hypothalamic-pituitary-adrenal) axis
Adrenal insufficiency	**Mineralocorticoid replacement therapy is needed for:** • Prevention of sodium loss • Hyperkalemia • Intravascular volume depletion	Produces familial glucocorticoid deficiency, adrenal glands can not produce glucocorticoids (cortisone, hydrocortisone)
Symptoms of adrenal insufficiency	• Muscle weakness • Weight loss • Loss of appetite • Abdominal pain • Chronic fatigue • Nausea, vomiting, and diarrhea • Hypotension and orthostatic hypotension • Depression and irritability • Hypoglycemia • Joint pain • Salty foods cravings • Irregular menstrual period, loss of libido	

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