

Concept: Metabolism

Metabolism Disturbance Chart

Disease	Overall effect	Causes	Classic S&S	Labs	Pharmacology	Interventions
Cushing's (Hypersecretion of steroids)		<ul style="list-style-type: none"> hypersecretion of corticosteroids ↑ ACTH 	HTN Central obesity buffalo hump muscle wasting osteoporosis moon face oily skin susp. to inf. ↑ BG weight gain slow healing-cuts virilization change mood (mental)	↑ Na ↑ BG ↓ K ↓ eosinophils	Adrenal Enzyme Inhibitors	<ul style="list-style-type: none"> Removal of tumor Radiation tx Drug therapy Monitor for Addisonian Crisis Diet I&O SmBG
Addison's (hypoadrenalism)	Chronic form of adrenal gland insuff. that results in inadequate prod of glucocorticoids, mineralocorticoids & androgens.	<ul style="list-style-type: none"> def. in corticosteroids lung inf (TB & histoplasmosis) autoimmune dyef UT ↑ dose steroid therapy Sx Cancer 	mus. weakness fatigue hyperpigment. ortho hypo. ↓ BG ↓ Na ↑ K mental changes confusion chronic dehyd. GI sympt.	↑ ACTH ↓ cortisol ↓ BG ↓ Na ↑ Ca ↑ WBC	Crisis: IV hydrocortisone IV dexamethasone Corticosteroids antibiotic mineralocorticosteroids.	<ul style="list-style-type: none"> Fluid replacement oral hormone tx (long acting gluco.) stabilize electr. imbalance I&O daily weights BP / HR

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Hyperthyroidism	↑ in circulating T ₃ & T ₄	<ul style="list-style-type: none"> • hyperfunction of thyroid gland • excessive prod. of hormones & gland enlargement. 	<p>↑ Systolic BP</p> tachycardia palpitations chest px diaphoresis heat intol. nervousness irritability bulging eyes dry skin tremors ↑ appetite ↓ weight	Serum TSH ↓ Serum Free T ₄ Serum T ₃ & T ₄ ↑ T ₃ Resin Uptake Test Radioactive Iodine Uptake ↑	Thiourea deriv. (thioamides) PTU Tapazole Lugol's solution Propranolol (↓ BP) (HTN)	<ul style="list-style-type: none"> • Radioactive iodine therapy (most common) • Antithyroid drugs • Beta Blockers (BP control) • Thyroidectomy ↑ nutrition (protein & cal) ↑ rest cool, quiet environ.
Hypothyroidism	thyroid hormones ↓	<ul style="list-style-type: none"> • thyroid dysf. • pituitary d/o • dysf. of pit. or hypothalamus or both • hypothal. d/o - autoimmune (Hashimoto's) - surgery - aging - meds (ie lithium) - iodine def. 	ext. fatigue hair loss brittle nails dry skin menstr. dist. Constipation puffy eyelids/face ↓ perspiration ↓ concentration cold intolerance weight gain ↓ temp, HR, BP ↑ chol. bone loss/osteo.	(same) ↓ T ₃ T ₄ ↑ TSH	Synthroid Levo thyroid - tachycardia - diarrhea	<ul style="list-style-type: none"> • Meds • Avoid foods that inhibit thyroid secretion. Rest Warm room/blankets. ↓ cal. diet