

Drug Name		Uses	Side effects	T <sub>1/2</sub>	Route of adminis-tration	notes	
Thyroid USP (bovine, ovine, porcine)		-hypothyroidism -thyroid cancer -weight reduction	- hyperthyroidis m -allergic reactions	1 week	oral	Allergies are common	
L-thyroxine Sodium				1 week	oral	Synthetic T <sub>4</sub>	
Thyroid extract (thyroglobulin)				1 week	oral		
Liothyronine sodium					Oral IV	Synthetic T <sub>3</sub>	
Liotrix				1 week	oral	Synthetic T <sub>4</sub> & T <sub>3</sub> (4:1)	
Propranolol (β blocker)		Controls thyrotoxicosis manifestations				No antithyroid effect	
Thiourea derivatives (thionamides) Arranged according to potency from higher to lower	1-Methimazole	Hyperthyroidism ( thyrotoxicosis or graves)	-allergy -hepatic dysfunction - agranulocytosis -methimazole is teratogenic (aplasia cutis congenital)		Oral		-Inhibit thyroid peroxidase enzyme -interfere with oxidation, iodination and coupling rxns -delayed onset of action 12-18 hrs -high relapse rate
	2-Carbimazole					Prodrug is converted to methimazole	
	3-propylthiouracil						
Iodide ( NaI or NaK )		- Hyperthyroidism ( thyrotoxicosis or graves) -before thyroid surgeries to decrease vascularity	-allergy Similar to ipodate		Solution or oral tablets	Decreases oxidation and release of T3 and T4, decreases uptake (similar to lithium carbonate)	

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Radioactive iodine I <sup>131</sup>		-diagnostic (small dose) -hyperthyroidism and graves (intermediate dose) -thyroid cancer (large dose)	- hypothyroidism (dose dependent) - contraindicated to pregnant and ophthalmopathy -pulmonary fibrosis -teratogenic and carcinogenic		Solution or capsules	-first line therapy for graves -preferred for women desiring pregnancy in the near future but they must wait 4-6 months before conceiving -higher remission rate
Lithium carbonate		-hyperthyroidism -manic depressive psychosis	-nausea -diarrhea -drowsiness -blurred vision -ataxia -tinnitus -diabetes insipidus		Oral or Sustained release tablet	- Decreases oxidation and release of T3 and T4, decreases uptake (similar to iodide) -narrow therapeutic window
Iodate (iodinated contrast media)		-hyperthyroidism	-allergy Similar to iodide		oral	-inhibits peripheral conversion of t4 to t3 and inhibits release
Vitamin D derivatives	Calcifediol	-chronic cases of hypoparathyroidism -osteoporosis				
	Calcitriol					
	Ergocalciferol					
	α-calcidiol					
	dihydroxycholesterol					
Calcium (supplements, salts)		-acute cases of hypoparathyroidism -osteoporosis				
teriparatide		- hypoparathyroidism -management of osteoporosis			subcutaneous	-synthetic rPTH

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Sodium phosphate		hyperparathyroidis m				
prednisolone		hyperparathyroidis m				-steroid -decreases calcium absorption
calcitonin		- hyperparathyroidis m -osteoporosis			intranasal	
Cinacalcet (calcimimetic)		- hyperparathyroidis m (primary and secondary) -chronic kidney patients who are on dialysis غسيل كلى -parathyroid cancer				
furosemide		hypercalcemia				A diuretic that increases calcium excretion
plicamycin		hypercalcemia				Inhibits bone resorption
biophosphonates	etidronate	-hypercalcemia			oral	Increase bone formation and decrease resorption
	pamidronate	-paget disease				
	alendronate	-osteoporosis				
	residronate					
Salmon calcitonin		-paget disease			Subcutane ous or IM	Drug of choice for paget
Estrogen and progestrone		-osteoporosis -decrease incidence of uterine cancer				
androgen		-osteoporosis				

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Raloxifene (SERM)	-osteoporosis				- Selective estrogen receptor modulators (SERM) -has estrogenic effects on bones and anti-estrogenic effect on uterus and breasts
Fluoride (NaF)					-small dose and slow release
denosumab	-postmenopausal osteoporosis -drug induced bone loss -bone metastasis	-hypocalcemia -serious infections in skin,bladder and heart (endocarditis) -elevates cholesterol levels in blood -pain in the back and jaw		Subcutaneous every 6 months	-inhibits receptor activator of nuclear factor κ ligand (RANKL)