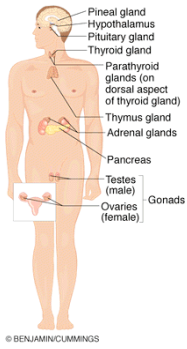
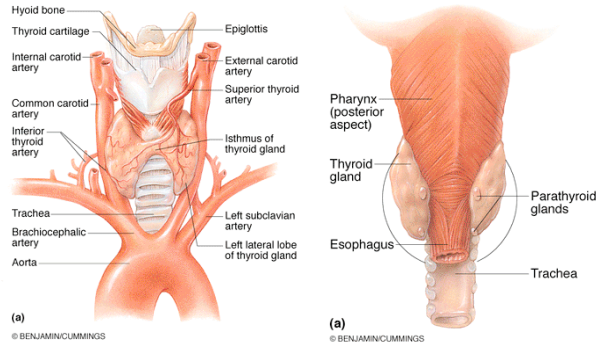


Endocrine System

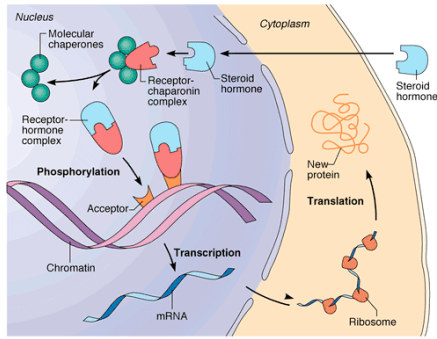


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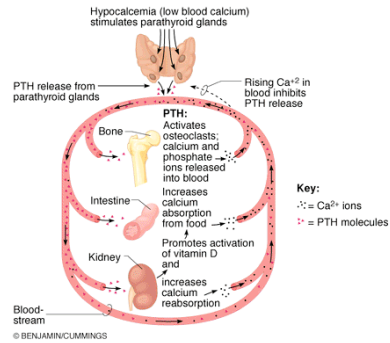


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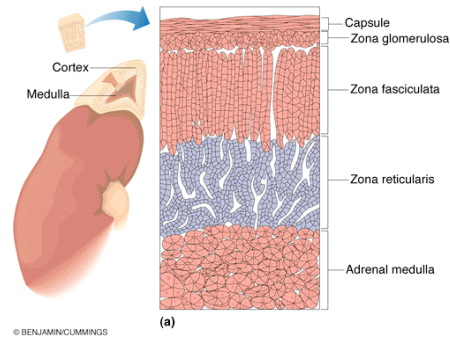
(b) © BENJAMIN/CUMMINGS



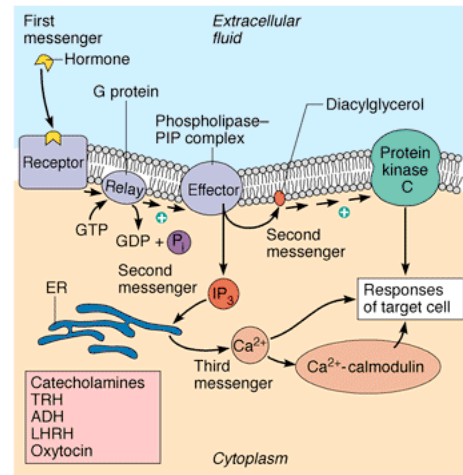
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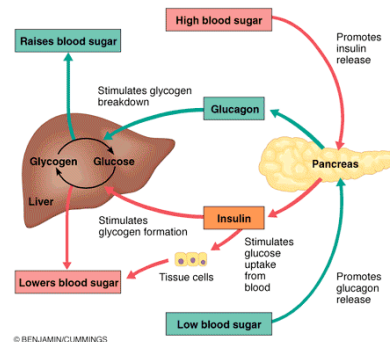
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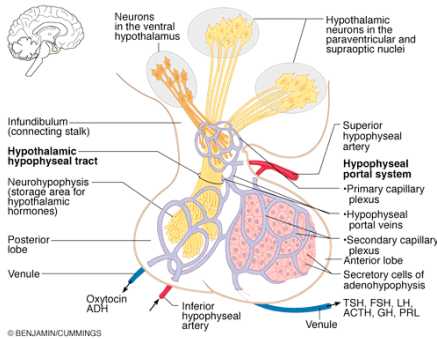
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Organs/tissue involved	Organ/tissue responses to insulin deficiency	Resulting condition of:		Signs and symptoms
		Blood	Urine	
	Decreased glucose uptake and utilization	Hyperglycemia	Glycosuria	Polyuria - dehydration - soft eyeballs
	Glycogenolysis		Osmotic diuresis	Polydipsia Fatigue
	Protein catabolism and gluconeogenesis			Weight loss Polyphagia
	Lipolysis and ketogenesis	Lipidemia and ketoacidosis	Ketonuria	Acetone breath Hyperpnea
		Loss of Na ⁺ , K ⁺ , electrolyte and acid-base imbalances		Nausea/vomiting/ abdominal pain Cardiac irregularities Central nervous system depression; coma

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