

Female Hormone Levels in Premenopause, Perimenopause, and Postmenopause

Hormones	Notes	Premenopause (Age 13-45)			Perimenopause (Age 40-50)			Postmenopause (Age > 50)		
		Early Cycle	Mid Cycle	Late Cycle	Early Cycle	Mid Cycle	Late Cycle	Early Cycle	Mid Cycle	Late Cycle
		Follicular Phase	Luteal Phase		Follicular Phase	Luteal Phase		Early Cycle	Mid Cycle	Late Cycle
Follicle Stimulating Hormone (FSH) (IU/L)	Peak occurs at midcycle; increases with menopause	5-20	30-50	5-20	20-24	50-70	20-24	50-96		
Estradiol (E2) (pg/ml)	Gradually declines with age; decreases 40-60% from baseline at menopause	20-100	100-350		60-70	60-95		5-25		
Estrone (pg/ml)	Premenopausal women estrone levels generally parallel to those of estradiol; after menopause, estrone levels no longer parallel to estradiol, instead, estrone levels is higher than those of estradiol	30-100	>150	90-160	N/A			20-40		
Luteinizing Hormone (LH) (IU/L)	Increases with menopause	1-18	25-57	0.5-18	N/A			12-55		
Progesterone (P4) (ng/ml)	Max occurs during pregnancy; gradually declines with age; decreases 12 folds compared with baseline at menopause	< 1	0.2-1.5	2-28	N/A			<1		
Total Testosterone (ng/dl)	Decreases with menopause	30-70			21-30			19-25		
Free Testosterone (pg/ml)	Decreases with menopause	0.7-3.6	3-5	10-13	N/A			1.2-2.2		
Dehydroepiandrosterone Sulfate (DHEAS) (ug/dl)	Peaks at early 20's, then gradually declines with age	135-330			66-140			59-96		
17 Hydroxyprogesterone (ng/dl)	Decreases with menopause	20-100	20-290		N/A			N/A		

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