TEST: **ESTRADIOL**

**PRINCIPLE:**
Estradiol is produced by the adrenals, placenta, and testes and is the principal estrogen secreted by the ovaries. Over 98% of circulating estradiol is bound to serum proteins, principally sex hormone-binding globulin (SHBG). Metabolic clearance of estradiol is affected by conversion to estrone, and by hydroxylation and conjugation with sulfate or glucuronide. Estradiol normally exerts negative feedback control on gonadotropin release; however, as estradiol production accelerates with the rapid growth of the dominant follicle, this feedback becomes positive, causing a surge in LH secretion and ovulation to occur. The measurement of estradiol is useful in assessing a variety of menstrual dysfunctions including delayed puberty, amenorrhea and menopause.

**SPECIMEN REQUIREMENTS:**
2ml serum collected in a red top tube with no additive or in a serum separator tube (gel barrier). Serum should be separated from the clot as soon as possible to avoid hemolysis. Store/transport sample at room temperature (15-30°C) for no longer than 8 hours or at 2-8°C for up 48 hours. If testing is further delayed, sera should be frozen at -20°C or lower. Avoid repeat freeze-thaw cycles.

**METHOD:**
Enhanced Chemiluminescence.

**REFERENCES:**

**Normal Range:**
- Normal Female Mid Follicular: 27-122 pg/ml
- Normal peri-ovulatory peak: 95-433 pg/ml
- Normal Female Mid Luteal: 49-291 pg/ml
- Postmenopausal Female: < 20-40 pg/ml

**Turnaround Time:** 3 days