

Amenorrhea

Department of OB-GYN

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Definitions

- **No menses by age 14 if no growth and development of secondary sexual characteristics.**
- **No menses by age 16 if normal growth and development.**
- **Cessation of menses for 6 months, or equivalent time to 3 prior cycles**

Menstrual Cycle

- **Depends on several compartments to be clinically evident.**
- **Requires patent outflow tract, internal organs, functional endometrium, sex steroids, anterior pituitary, and hypothalamus.**

Compartment I

- **Uterus or outflow tract**

Compartment II

- **Ovaries**

Compartment III

- **Anterior pituitary**

Compartment IV

- **CNS factors, hypothalamus**

Basic Evaluation

- **Always starts with good history and physical.**
- **Psychological dysfunction, nutrition, abnormal growth and development, family history of genetic disease, presence of a normal reproductive tract.**

Basic Evaluation

- **Always exclude pregnancy first!**
- **Every patient will then get a TSH, prolactin, and progesterin challenge test.**
- **For those patients with amenorrhea and galactorrhea you should image the pituitary.**

Progestin Challenge Test

- **Gives information on an intact outflow tract, functional endometrium, levels of endogenous estrogen.**
- **Give 10mg provera for 5 days, or 200mg IM of progesterone in oil.**
- **Bleeding should start within 2-7 days**

Progestin Challenge Test

- **If the patient has a withdrawal bleed and her TSH and prolactin are normal, no more work-up is needed.**
- **This patient is anovulatory and should be cycled monthly. If pregnancy is desired then ovulation induction is needed.**

Progestin Challenge Test

- **If no withdrawal bleed: Give estrogen and progesterone stimulation test.**
- **2.5 mg conjugated estrogens for 21 days with 10 mg provera added the last 5 days. Repeat cycle if needed.**

Amenorrhea continued

- **If no flow after estrogen and progesterone then there is a uterine or outflow problem.**
- **If there is a flow, order a FSH and LH to determine if there is an ovarian problem.**

Amenorrhea continued

- **If the FSH/LH are high then ovarian failure is diagnosed.**
- **For patients <30 yrs, order a karyotype. For those >30yrs, premature menopause is a better term.**

Amenorrhea continued

- **If the FSH/LH are normal, image the sella turcica to help determine a pituitary from a hypothalamic problem.**
- **If the imaging studies are normal the patient is diagnosed with a hypothalamic amenorrhea.**

Compartment I Disorders

- **Asherman's Syndrome**
- **Mullerian anomalies: Mayer-Rokitansky-Kuster-Hauser Syndrome(no vagina,amenorrhea)**
- **Congenital Androgen Insensitivity Syndrome(Testicular Feminization)**

Compartment II

Disorders

- **Gonadal dysgenesis (primary amenorrhea: 50% have 45,X; 25% mosaics; 25% with 46, XX secondary amenorrhea: 46,XX; 45,X/46,XX; 47,XXX; 45,X)**
- **Turner's Syndrome 45,X**
- **Gonadal Agenesis**
- **Premature ovarian failure**

Compartment III

Disorders

- **Pituitary prolactinomas**
- **Empty Sella Syndrome**

Compartment IV

Disorders

- **Weight loss, Anorexia and Bulimia**
- **Excessive exercise**
- **post-pill/depo-provera**