Key Medical Terms Associated with the Reproductive System

**Bartholin's cyst:** The Bartholin's glands (greater vestibular glands) are located on each side of the vaginal opening. These glands secrete fluid that helps lubricate the vagina. Sometimes the openings of these glands become obstructed due to infection or overgrowth of tissue, causing fluid to back up into the gland resulting in a swelling called a Bartholin's cyst. Although a cyst is usually painless, it can be tender. At times, the fluid within the cyst may become infected, resulting in pus surrounded by inflamed tissue (abscess). A Bartholin's cyst is relatively common occurring in ~ 2% of women. Treatment depends on the size of the cyst, the pain and whether the cyst is infected. Sometimes home treatment (for instance, soaking the area in warm water) is all you need. In other cases, surgical drainage of the Bartholin's cyst is necessary. If an infection occurs, antibiotics may be helpful to treat the infected Bartholin's cyst.

**Castration:** Removal, inactivation, or destruction of the gonads; commonly used in reference to removal of the testes only.

**Colposcopy** (kol-POS-ko-pe): Visual inspection of the vagina and cervix of the uterus using a culposcope, an instrument that has a magnifying lens (between 5 and 50X) and a light.

**Endocervical curettage:** A procedure in which the cervix is dilated and the endometrium of the uterus is scraped with a spoon-shaped instrument called a curette; commonly called a D and C (dilation and curettage).

**Fibroids:** Noncancerous tumors in the myometrium of the uterus composed of muscular and fibrous tissue. Their growth appears to be related to high levels of estrogens. There may be formation of a single fibroid or cluster of fibroid and the sizes may range from microscopic lesions to big fibroid with the size of a tennis ball. They do not occur before puberty and usually stop growing after menopause. Symptoms include abnormal menstrual bleeding and pain or pressure in the pelvic area. **Fibroids** affect about a third of female population. Women are unaware of this condition till they undergo routine medical checkup when the physician presses the abdomen and feels the lump. Associated symptoms include heavy menstrual bleeding, pelvic and back pain, frequent urination and pressure. If the fibroids do not cause symptoms, there is no need to treat them. They should be monitored for increased growth at each of your annual examinations.

**Leukorrhea:** A whitish (nonbloody) or yellowish vaginal discharge containing mucus and pus cells that may occur at any age and affects most women at some time. Vaginal discharge is normal for a woman, and the amount may vary for each. Causes of change in discharge include infection, malignancy, and hormonal changes. It can be a natural defense mechanism the vagina uses to maintain its chemical balance, as well as to preserve the flexibility of the vaginal tissue. Leukorrhea may occur normally during pregnancy. This is caused by increased bloodflow to the vagina due to
increased estrogen levels. Female infants may have leukorrhea for a short time (1 to 2 months) after birth due to their in-uterine exposure to estrogen. Leukorrhea may also result from inflammation or congestion of the vaginal mucosa. In cases where it is yellowish or gives off an odor, a doctor should be consulted since it could be a sign of several disease processes. Abnormal leukorrhea may be caused by infections with bacteria, yeast, or other microorganisms. These diseases lead to infection of the cervix, which is indeed one of the most common gynecological disorders. The infection has a tendency to irritate the mucus glands of the cervix, causing them to secrete an excess of mucous mixed with pus. Leukorrhea is also a sign of vaginitis (inflammation of the vagina), which is often caused by infection with the fungus *Candida albicans* or by infection with the protozoan parasite *Trichomonas vaginalis*. A tampon, diaphragm, or other foreign object left too long in the vagina can also cause leukorrhea.

**Hermaphroditism:** The presence of both ovarian and testicular tissue in one individual.

**Menorrhagia** (men-o-RA-je-a; meno-=menstruation; -rhage=to burst forth): Excessively prolonged or profuse menstrual period. May be due to a disturbance in hormonal regulation of the menstrual cycle, pelvic infection, medications (anticoagulants), fibroids (noncancerous uterine tumors composed of muscle and fibrous tissue), endometriosis, or intrauterine devices.

**Ovarian cyst:** The most common form of ovarian tumor, in which a fluid-filled follicle or corpus luteum persists and continues to grow. Ovarian cysts affect women of all ages. The vast majority of ovarian cysts are considered functional (or physiologic). This means they occur normally and are not part of a disease process. Most ovarian cysts are benign (not cancerous), and many disappear on their own in a matter of weeks without treatment. While cysts may be found in ovarian cancer, ovarian cysts typically represent a harmless (benign) condition or a normal process. Ovarian cysts occur most often during a woman's childbearing years.

**Papanicolaou test** (pa-pa-ni-ko-LA-oo), or **PAP smear:** A test to detect cervical cancer in which a few cells from the cervix and the part of the vagina surrounding the cervix are removed with a swab and examined microscopically. Malignant cells have a characteristic appearance that allows diagnosis even before symptoms occur.

**Pelvic inflammatory disease (PID):** A collective term for any extensive bacterial infection of the pelvic organs, especially the uterus, uterine tubes, or ovaries, which is characterized by pelvic soreness, lower back pain, abdominal pain, and urethritis.

**Prostate Specific Antigen (PSA):** Prostate-specific antigen (PSA) is a protein produced for the ejaculate, where it liquefies semen in the seminal coagulum and allows sperm to swim freely. It is also believed to be instrumental in dissolving cervical mucus, allowing the entry of sperm into the uterus. Some PSA can leak from the prostate and is normally present in small quantities in the serum of men with healthy prostates. It is often elevated in the presence of prostate cancer, benign prostatic hyperplasia (BPH), acute bacterial prostatitis, or other prostate disorders.
Priapism (PRI-a-pizm): Refers to a persistent and usually painful erection of the penis that does not involve sexual desire or excitement. The condition may last up to several hours and is accompanied by pain and tenderness. It results from abnormalities of blood vessels and nerves, usually in response to taking an increased dose of medication used to produce erections in males who have erectile dysfunction. Other causes include a spinal cord disorder, leukemia, sickle-cell anemia, or a pelvic tumor.

Penis Fracture: Can occur when there is trauma to the erect penis. During an erection, the penis is engorged with blood. If the penis is bent suddenly or forcefully while it's engorged, the trauma may rupture the lining (tunica albuginea) of one of the cylinders in the penis (two corpus cavernosum and a corpus spongiosum) responsible for erections — resulting in a penis fracture and internal hemorrhaging. The trauma is usually related to aggressive or acrobatic sexual intercourse or, in some cases, aggressive masturbation. A penis fracture is a painful injury that's often accompanied by an audible cracking sound, followed immediately by dark bruising of the penis due to blood escaping the cylinder. In some cases the tube that drains urine from the body (urethra) may be damaged as well, and blood may be visible at the urinary opening of the penis. A penis fracture requires urgent medical attention. A penis fracture can usually be diagnosed with a physical exam, and prompt surgical repair is typically recommended. Left untreated, a penis fracture may result in deformity of the penis or the inability to have or maintain an erection (erectile dysfunction).

Smegma (SMEG-ma): The secretion, consisting principally of desquamated epithelial cells, found chiefly around the external genitalia and especially under the foreskin of the male.

Onset of puberty in females: The age at which puberty begins is related to the amount of body fat and level of physical activity of the child. The average age of menarche is later (age 15 years) in girls who are very active physically than in the general population (age 12.6 years). This appears to be due to a requirement for a minimum percentage of body fat for menstruation to begin; this may represent a mechanism favored by natural selection to ensure that a woman can successfully complete a pregnancy and nurse the baby. Recent evidence suggests that the secretion of leptin from adipocytes is required for puberty. Leptin is a hormone that is important for normal body-weight regulation. The amount of leptin in the blood is an indicator of the total amount of triglyceride fat stored in adipose tissue: The larger the fat stores, the more leptin released into the blood. Leptin has been shown to act as a satiety factor to reduce appetite. Later in life, women who are very lean and physically active may have irregular cycles and amenorrhea (cessation of menstruation). This may also be related to the percentage of body fat.

Effects of Pheromones, Stress and Body Fat: Since gonadotropin-releasing hormone (GnRH) stimulates the anterior pituitary to secrete FSH and LH, the GnRH-releasing neurons of the hypothalamus might be considered the master regulators of the reproductive system. However, the release of GnRH is itself regulated by feedback effects of ovarian hormones and by input from higher
brain centers. Because of input to GnRH neurons from the olfactory system, pheromones can cause the menstrual cycle of roommates to synchronize (the dormitory effect). Recent evidence suggests that this pheromonal effect in humans is due to the stimulation of olfactory neurons in the nasal mucosa.

The limbic system of the brain includes regions involved in emotions. Axons extend from the limbic system to the GnRH neurons of the hypothalamus. By means of the neural pathways, the secretion of GnRH and thus of FSH and LH, can be influenced by stress and emotions. Considering this, it is not surprising that stress can even cause a cessation of menstruation or amenorrhea.

Many girls who are very thin or athletic have a delayed menarche, and women with low body fat can have irregular cycles or amenorrhea. Functional amenorrhea is the cessation of menstruation caused by inadequate stimulation of the ovaries by FSH and LH, which in turn is due to inadequate release of GnRH from the hypothalamus. Functional amenorrhea is most often seen in women who are thin and athletic, as well as women under prolonged stress. The explanation for this may relate to leptin, a hormone secreted by adipocytes that regulates hunger and metabolism, and seem to be required for normal reproductive and neuroendocrine function. Leptin secretion is increased when adipocytes get larger, and is decreased when they are reduced in size. A recent study demonstrated that exogenous leptin might be beneficial in helping to treat functional amenorrhea.